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TO: Ben Sackey
Location: rem/5b31/5c18
Art Unit: 1626
Wednesday, July 21, 2004

Case Serial Number: 10/656867

From: Noble Jarrell
Location: Biotech-Chem Library
Rem 1B71
Phone: 272-2556

Noble.jarrell@uspto.gov

Search Notes

=> b reg

FILE 'REGISTRY' ENTERED AT 15:15:18 ON 21 JUL 2004
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DICTIONARY FILE UPDATES: 20 JUL 2004 HIGHEST RN 713489-00-0

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

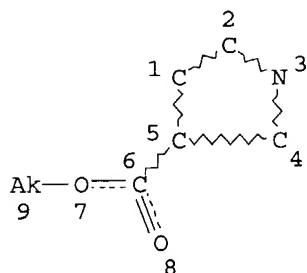
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d que stat l5

L1 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 1
NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

L3 167152 SEA FILE=REGISTRY ABB=ON PLU=ON 16.136.9/RID
L4 23141 SEA FILE=REGISTRY SSS FUL L1
L5 11379 SEA FILE=REGISTRY ABB=ON PLU=ON L3 AND L4

=> d his

(FILE 'HOME' ENTERED AT 14:19:26 ON 21 JUL 2004)

FILE 'REGISTRY' ENTERED AT 14:19:46 ON 21 JUL 2004

L1 STR

L2 50 L1

L3 167152 16.136.9/RID

L4 23141 L1 FULL
L5 11379 L3 AND L4
SAVE TEMP L4 SAC867FUL/A

FILE 'HCAPLUS' ENTERED AT 14:26:49 ON 21 JUL 2004

L6 2688 L5
L7 1791 L6 (L) PREP+NT/RL
E PAGENKOPF B/AU
L8 33 E4
E AUSTIN M/AU
E YU M/AU
L9 181 E3
E YU MING/AU
L10 204 E3
L11 105981 (UNIV? (1A) TEXAS)/CS,PA
L12 2 L7 AND L8-10
L13 8 L7 AND L11
L14 6 L13 NOT L12
L15 6 L14 AND (PY<=2003 OR PRY<=2003 OR AY<=2003 OR PD<20030905 OR PR
L16 1785 L7 NOT L15
L17 1764 L16 AND (PY<=2003 OR PRY<=2003 OR AY<=2003 OR PD<20030905 OR PR
E LEWIS ACID/CT
E E8+ALL
L18 5286 LEWIS ACIDS/CT
E E3+ALL
E CARBONYLS/CT
E E3+ALL
E E2+ALL
L19 41882 CARBONYL COMPLEXES+OLD,NT/CT
L20 105 L19 (L) LEWIS
E LEWIS ACIDS/CT
E E3+ALL
E LEWIS ACIDITY+ALL/CT
L21 1020 LEWIS ACIDITY/CT
E ACIDITY/CT
E E3+ALL
L22 63907 ACIDITY+NT/CT
L23 1306 L22 (L) LEWIS
E LEWIS ACIDS+ALL/CT
E E5+ALL
L24 1682 ELECTROPHILES/CT
E CHARGE TRANSFER COMPLEXES/CT
E E3+ALL
L25 8197 CHARGE TRANSFER COMPLEXES+OLD,NT/CT
L26 6 L17 AND (L18 OR L20 OR L21 OR L23 OR L24 OR L25)
L27 1 L26 AND L8-11
L28 5 L26 NOT L27
L29 2 L12 OR L27

FILE 'REGISTRY' ENTERED AT 15:06:35 ON 21 JUL 2004

L30 1083780 NC4/ES
L31 167152 L30 AND L3

FILE 'HCAPLUS' ENTERED AT 15:07:14 ON 21 JUL 2004

L32 20281 L31 (L) PREP+NT/RL
L33 2 L32 AND L8-10
L34 154 L32 AND L11
L35 2 L12 OR L33
L36 152 L34 NOT L33
L37 1 L36 AND (L18 OR L20 OR L21 OR L23 OR L24 OR L25)

L38 1 L37 AND (PY<=2003 OR PRY<=2003 OR AY<=2003 OR PD<20030905 OR PR
L39 20129 L32 NOT L36
L40 74 L39 AND (L18 OR L20 OR L21 OR L23 OR L24 OR L25)
L41 72 L40 AND (PY<=2003 OR PRY<=2003 OR AY<=2003 OR PD<20030905 OR PR
L42 15 L41 AND P/DT
L43 7 L15 OR L38
L44 2 L35 OR L29
L45 19 L28 OR L42

=> b hcap

FILE 'HCAPLUS' ENTERED AT 15:15:37 ON 21 JUL 2004

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FILE COVERS 1907 - 21 Jul 2004 VOL 141 ISS 4

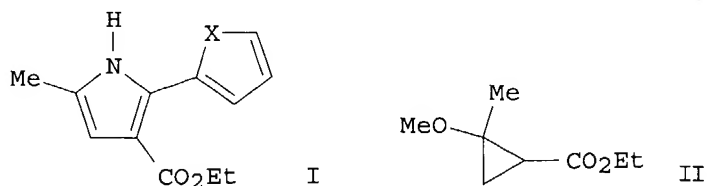
FILE LAST UPDATED: 20 Jul 2004 (20040720/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

=> d bib abs fhitrn l44 tot

L44 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:141810 HCAPLUS
DN 140:339152
TI Synthesis of 2,2'-bipyrroles and 2,2'-thienylpyrroles from donor-acceptor cyclopropanes and 2-cyanoheteroles
AU **Yu, Ming**; Pantos, G. Dan; Sessler, Jonathan L.; **Pagenkopf, Brian L.**
CS Department of Chemistry and Biochemistry, University of Texas at Austin, Austin, TX, 78712, USA
SO Organic Letters (2004), 6(6), 1057-1059
CODEN: ORLEF7; ISSN: 1523-7060
PB American Chemical Society
DT Journal
LA English
GI



AB Two series of 2,2'-bipyrroles, e.g., I (X = NH), and 2,2'-thienylpyrroles, e.g., I (X = S), have been prepared by trimethylsilyl trifluoromethanesulfonate-mediated reaction of donor-acceptor cyclopropanes, e.g., II, with 2-cyanopyrroles and 2-cyanothiophene, resp. This method opened the door for synthesis of a wide variety of unsym. bipyrroles and thienylpyrroles.

IT 679816-74-1P

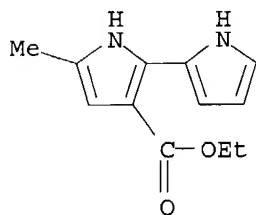
RL: SPN (Synthetic preparation); PREP (Preparation);

PREP (Preparation); RACT (Reactant or reagent)

(preparation of bipyrrolecarboxylates and thienylpyrrolecarboxylates via heterocyclization of alkoxy cyclopropanecarboxylates with cyanopyrroles or cyanothiophene)

RN 679816-74-1 HCAPLUS

CN [2,2'-Bi-1H-pyrrole]-3-carboxylic acid, 5-methyl-, ethyl ester (9CI) (CA INDEX NAME)



IT 679816-74-1P 679816-87-6P 679816-90-1P
679816-91-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of bipyrrolecarboxylates and thienylpyrrolecarboxylates via heterocyclization of alkoxy cyclopropanecarboxylates with cyanopyrroles or cyanothiophene)

IT 133706-06-6P 679816-75-2P 679816-76-3P
679816-77-4P 679816-78-5P 679816-79-6P
679816-80-9P 679816-81-0P 679816-82-1P
679816-83-2P 679816-84-3P 679816-85-4P
679816-86-5P 679816-88-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of bipyrrolecarboxylates and thienylpyrrolecarboxylates via heterocyclization of alkoxy cyclopropanecarboxylates with cyanopyrroles or cyanothiophene)

IT 52707-46-7P, 2-Thienyl-2-pyrrole 90557-31-6P,
5-Methyl-2,2'-bipyrrole 679816-92-3P 679816-93-4P

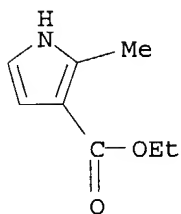
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of methylbipyrrole and thienylpyrroles via decarboxylation of methylbipyrrolecarboxylate or thienylpyrrolecarboxylates)

RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

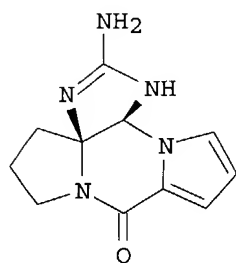
L44 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2003:960478 HCAPLUS
 DN 140:111237
 TI A Powerful New Strategy for Diversity-Oriented Synthesis of Pyrroles from Donor-Acceptor Cyclopropanes and Nitriles
 AU **Yu, Ming; Pagenkopf, Brian L.**
 CS Department of Chemistry and Biochemistry, The **University of Texas** at Austin, Austin, TX, 78712, USA
 SO Organic Letters (2003), 5(26), 5099-5101
 CODEN: ORLEF7; ISSN: 1523-7060
 PB American Chemical Society
 DT Journal
 LA English
 AB Lewis acid-activated donor-acceptor cyclopropanes react with aliphatic, aromatic, and .alpha.,.beta.-unsatd. nitriles in a novel cascade [3 + 2] dipolar cycloaddn., dehydration, and tautomerization sequence to afford pyrroles in moderate to excellent overall yield. This cost-effective and regiospecific method is ideally suited for the preparation of combinatorial libraries.
 IT 936-12-9P
 RL: **SPN (Synthetic preparation); PREP (Preparation)**
 (diversity-oriented synthesis of pyrroles via Lewis acid-activated cycloaddn./dehydration/tautomerization reactions of various donor-acceptor cyclopropanes and nitriles)
 RN 936-12-9 HCAPLUS
 CN 1H-Pyrrole-3-carboxylic acid, 2-methyl-, ethyl ester (9CI) (CA INDEX NAME)



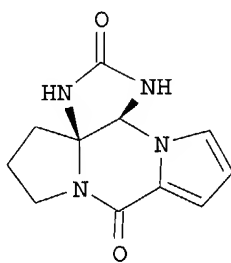
IT 936-12-9P 2199-52-2P 22186-92-1P
 27172-04-9P 27188-97-2P 38597-58-9P
 647836-43-9P 647836-44-0P 647836-46-2P
 647836-48-4P 647836-57-5P 647836-58-6P
 647836-59-7P 647836-60-0P 647836-61-1P
 647836-62-2P 647836-63-3P 647836-64-4P
 647836-65-5P 647836-66-6P 647836-67-7P
 647836-68-8P 647836-69-9P 647836-77-9P
 647836-78-0P 647836-79-1P
 RL: **SPN (Synthetic preparation); PREP (Preparation)**
 (diversity-oriented synthesis of pyrroles via Lewis acid-activated cycloaddn./dehydration/tautomerization reactions of various donor-acceptor cyclopropanes and nitriles)
 RE.CNT 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d all hitstr 143 tot

L43 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2002:525797 HCAPLUS
 DN 137:217122
 ED Entered STN: 16 Jul 2002
 TI Highly Diastereoselective Desymmetrizations of Cyclo(Pro,Pro): An
 Enantioselective Strategy toward Phakellstatin and Phakellin
 AU Poullennec, Karine G.; Kelly, Anna T.; Romo, Daniel
 CS Department of Chemistry, Texas AM University, College
 Station, TX, 77842-3012, USA
 SO Organic Letters (2002), 4(16), 2645-2648
 CODEN: ORLEF7; ISSN: 1523-7060
 PB American Chemical Society
 DT Journal
 LA English
 CC 31-6 (Alkaloids)
 Section cross-reference(s): 34, 75
 OS CASREACT 137:217122
 GI



I



II

AB Monoenolates of C2-sym., proline-derived piperazine-2,5-diones were
 generated and trapped with a variety of electrophiles to produce, in a
 highly diastereoselective fashion, functionalized diketopiperazines
 (DKPs). These reactions provide the basis for an asym., desymmetrization
 strategy toward the marine alkaloids phakellstatin (I) and phakellin (II).
 The relative stereochem. of the functionalized DKPs was confirmed by
 single-crystal X-ray anal. and/or NOE expts. Bis-functionalization of the
 DKPs was also found to proceed with high levels of diastereoselectivity.
 ST enantioselective synthetic strategy phakellstatin phakellin marine
 alkaloid; cyclodiproline diastereoselective desymmetrization;
 piperazinedione prepn reaction electrophile; proline cyclic dimer prepn
 diastereoselective desymmetrization
 IT Symmetry
 (desymmetry; enantioselective strategy toward phakellstatin and
 phakellin via a highly diastereoselective desymmetrizations of a chiral
 proline cyclic dimer)
 IT Asymmetric synthesis and induction
 Crystal structure
Electrophiles
 Stereochemistry
 (enantioselective strategy toward phakellstatin and phakellin via a
 highly diastereoselective desymmetrizations of a chiral proline cyclic
 dimer)
 IT Alkaloids, preparation
 RL: PNU (Preparation, unclassified); PREP (Preparation)
 (pyrrolo-imidazolo-pyrimidine; enantioselective strategy toward
 phakellstatin and phakellin via a highly diastereoselective

- desymmetrizations of a chiral proline cyclic dimer)
- IT 34649-22-4DP, Oroidin, derivs.
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (approach to the synthesis of marine alkaloids metabolites of;
 enantioselective strategy toward phakellstatin and phakellin via a
 highly diastereoselective desymmetrizations of a chiral proline cyclic
 dimer)
- IT 31954-96-8P 31955-05-2P, Monobromophakellin 33051-47-7P, Phakelline
 148717-58-2P, Palauamine 185750-71-4P, Dibromophakellstatin
 457074-76-9P, Phakellstatine
 RL: PNU (Preparation, unclassified); PREP (Preparation)
 (enantioselective strategy toward phakellstatin and phakellin via a
 highly diastereoselective desymmetrizations of a chiral proline cyclic
 dimer)
- IT 454693-90-4P 454693-93-7P 454693-97-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (enantioselective strategy toward phakellstatin and phakellin via a
 highly diastereoselective desymmetrizations of a chiral proline cyclic
 dimer)
- IT 454693-78-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and NOE study of; enantioselective strategy toward
 phakellstatin and phakellin via a highly diastereoselective
 desymmetrizations of a chiral proline cyclic dimer)
- IT 454693-95-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and NOE study of; enantioselective strategy toward
 phakellstatin and phakellin via a highly diastereoselective
 desymmetrizations of a chiral proline cyclic dimer)
- IT 454693-88-0P 454693-92-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and azidation of; enantioselective strategy toward
 phakellstatin and phakellin via a highly diastereoselective
 desymmetrizations of a chiral proline cyclic dimer)
- IT 454693-84-6P 454693-91-5P 454693-98-2P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and crystal structure of; enantioselective strategy toward
 phakellstatin and phakellin via a highly diastereoselective
 desymmetrizations of a chiral proline cyclic dimer)
- IT 454693-80-2P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and diastereomeric excess determination of; enantioselective
 strategy
 toward phakellstatin and phakellin via a highly diastereoselective
 desymmetrizations of a chiral proline cyclic dimer)
- IT 454693-82-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and hydrogenolysis of; enantioselective strategy toward
 phakellstatin and phakellin via a highly diastereoselective
 desymmetrizations of a chiral proline cyclic dimer)
- IT 454693-75-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation, hydrogenolysis and reaction with thiourea derivative;
 enantioselective strategy toward phakellstatin and phakellin via a
 highly diastereoselective desymmetrizations of a chiral proline cyclic
 dimer)
- IT 36099-80-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(silylation of; enantioselective strategy toward phakellstatin and
phakellin via a highly diastereoselective desymmetrizations of a chiral
proline cyclic dimer)

IT 19943-27-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective reaction with electrophiles; enantioselective strategy
toward phakellstatin and phakellin via a highly diastereoselective
desymmetrizations of a chiral proline cyclic dimer)

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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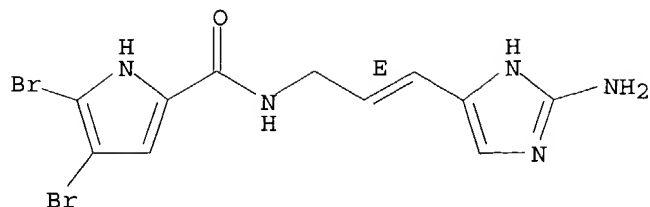
IT 34649-22-4DP, Oroidin, derivs.

RL: SPN (Synthetic preparation); PREP (Preparation)
(approach to the synthesis of marine alkaloids metabolites of;
enantioselective strategy toward phakellstatin and phakellin via a
highly diastereoselective desymmetrizations of a chiral proline cyclic
dimer)

RN 34649-22-4 HCAPLUS

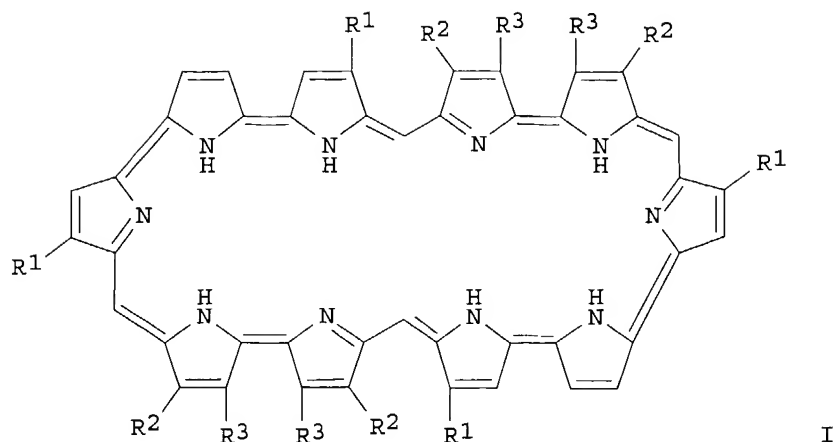
CN 1H-Pyrrole-2-carboxamide, N-[(2E)-3-(2-amino-1H-imidazol-4-yl)-2-propenyl]-
4,5-dibromo- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

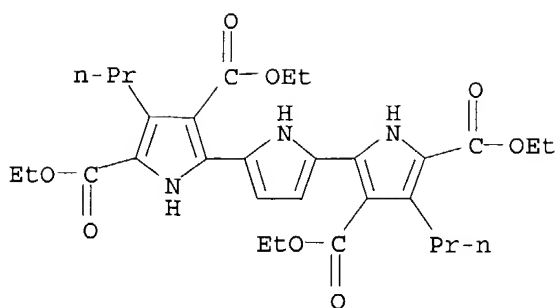


L43 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1996:546326 HCAPLUS
 DN 125:195287
 ED Entered STN: 13 Sep 1996
 TI Preparation of turcasarins, novel expanded porphyrins, as radiation sensitizers
 IN Sessler, Jonathan L.; Weghorn, Steven J.; Brucker, Eric A.
 PA Board of Regents, the **University of Texas** System, USA
 SO PCT Int. Appl., 103 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07D487-22
 ICS A61K031-40; C07D519-00; C07H013-10; C07H015-26; C07F009-6561
 ICI C07D487-22, C07D259-00, C07D209-00; C07D519-00, C07D487-00, C07D473-00
 CC 26-7 (Biomolecules and Their Synthetic Analogs)
 FAN.CNT 1

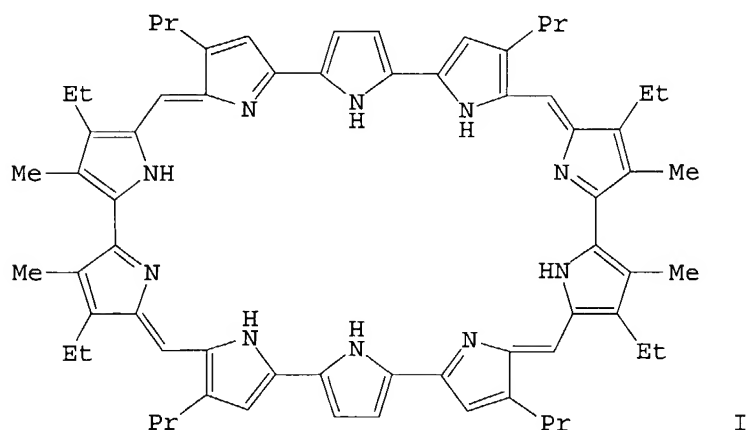
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9621665	A1	19960718	WO 1995-US530	19950113 <--
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9517266	A1	19960731	AU 1995-17266	19950113 <--
PRAI WO 1995-US530		19950113 <--		
OS MARPAT 125:195287				
GI				



- AB Turcasarins I (R1, R2, R3 = alkyl, functional group) were prepared as radiation sensitizers. Thus, 2,5-bis(4-propyl-2-pyrrolyl)pyrrole reacted with 4,4'-diethyl-5,5'-diformyl-3,3'-dimethyl-2,2'-bipyrrole to give I (R1 = Pr, R2 = Et, R3 = Me).
- ST turcasarin prepn radiation sensitizer
- IT Ionophores
(preparation of turcasarins as radiation sensitizers)
- IT Photodynamic action
(therapeutic, preparation of turcasarins as radiation sensitizers)
- IT 158097-58-6P 180799-50-2P 180799-51-3P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of turcasarins as radiation sensitizers)
- IT 125735-71-9 125902-08-1 142038-34-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of turcasarins as radiation sensitizers)
- IT 158097-56-4P **158097-57-5P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**
(preparation of turcasarins as radiation sensitizers)
- IT 7440-66-6DP, Zinc, turcasarin complexes 158402-59-6DP, Turcasarin, zinc complexes 180799-52-4P 180799-53-5P 180799-54-6P 180799-55-7P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of turcasarins as radiation sensitizers)
- IT **158097-57-5P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**
(preparation of turcasarins as radiation sensitizers)
- RN 158097-57-5 HCAPLUS
- CN [2,2':5',2''-Ter-1H-pyrrole]-3,3'',5,5''-tetracarboxylic acid, 4,4''-dipropyl-, tetraethyl ester (9CI) (CA INDEX NAME)



L43 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1994:630549 HCAPLUS
 DN 121:230549
 ED Entered STN: 12 Nov 1994
 TI Turcasarin a highly expanded porphyrin
 AU Sessler, Jonathan L.; Weghorn, Steven J.; Lynch, Vincent; Johnson, Martin R.
 CS Department of Chemistry and Biochemistry, **University of Texas**, Austin, TX, 78712, USA
 SO Angewandte Chemie (1994), 106(14), 1572-5 (See also Angew. Chem., Int. Ed. Engl., 1994, 33(14), 1509-12)
 CODEN: ANCEAD; ISSN: 0044-8249
 DT Journal
 LA German
 CC 26-7 (Biomolecules and Their Synthetic Analogs)
 Section cross-reference(s): 75
 GI



AB Turcasarin (I) was prepared by condensing the bipyrroledicarboxaldehyde with the tripyrrole fragment. The crystal structure of I.4HCl is reported. The mol. structure and conformation of I are discussed.
 ST turcasarin prepn crystal mol structure; conformation turcasarin
 IT Conformation and Conformers
 Molecular structure
 (of turcasarin)
 IT Crystal structure

(of turcasarin tetrahydrochloride)

IT Nomenclature, new synthetic compounds
(turcasarin (decaphyrin))

IT 158097-58-6P 158402-59-6P, Turcasarin
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and mol. structure of turcasarin, a highly expanded porphyrin)

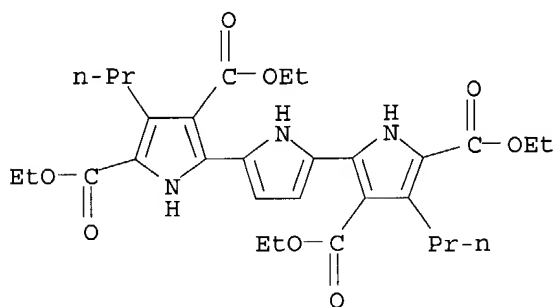
IT 4758-81-0 142038-34-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and mol. structure of turcasarin, a highly expanded porphyrin)

IT 158097-56-4P **158097-57-5P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and mol. structure of turcasarin, a highly expanded porphyrin)

IT **158097-57-5P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and mol. structure of turcasarin, a highly expanded porphyrin)

RN 158097-57-5 HCAPLUS

CN [2,2':5',2''-Ter-1H-pyrrole]-3,3'',5,5''-tetracarboxylic acid,
4,4''-dipropyl-, tetraethyl ester (9CI) (CA INDEX NAME)



L43 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:323170 HCAPLUS

DN 120:323170

ED Entered STN: 25 Jun 1994

TI An efficient, high-yield preparation of substituted 2,2'-bipyrroles

AU Sessler, J. L.; Hoehner, M. C.

CS Dep. Chem. Biochem., Univ. Texas, Austin, TX, 78712, USA

SO Synlett (1994), (3), 211-12

CODEN: SYNLES; ISSN: 0936-5214

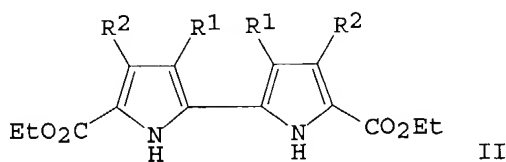
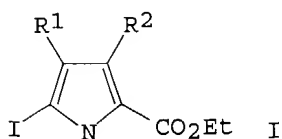
DT Journal

LA English

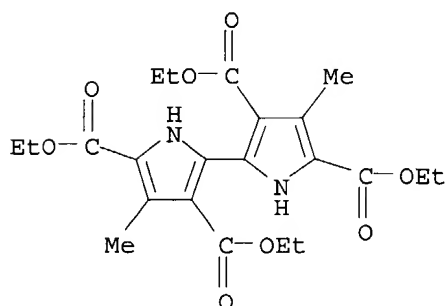
CC 27-10 (Heterocyclic Compounds (One Hetero Atom))

OS CASREACT 120:323170

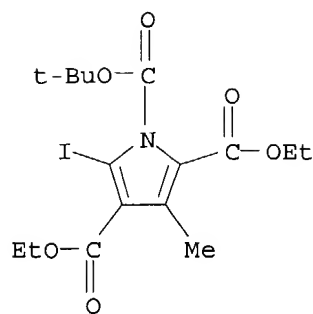
GI



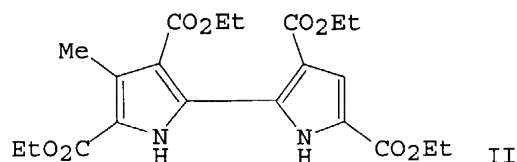
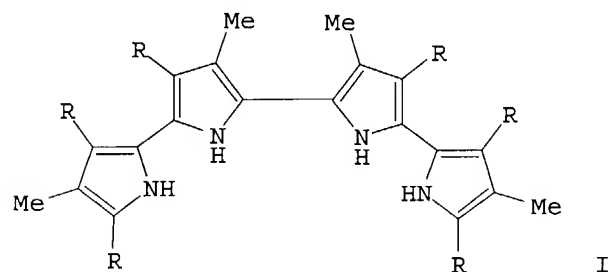
- AB An improved preparation of alkyl substituted 2,2'-bipyrroles is described. It involves first pyrrolic N protection of substituted 2-iodopyrroles to give I (R1 = Me, CO2Et; R2 = Me, Et), then Ullmann-type coupling of I, followed finally by deprotection of the resulting 2,2'-bipyrroles II (same R1, R2). Using this procedure, yields of 2,2'-bipyrroles are typically enhanced by 20-30% depending on the pyrrole ring substitution and the scale of the reaction.
- ST bipyrrole; alkylbipyrrole
- IT Ullmann reaction
(of (iodo)pyrrolicarboxylate to [2,2'-bipyrrole]-5,5'-dicarboxylate)
- IT 93947-88-7P, [2,2'-Bipyrrole]-5,5'-dicarboxylic acid, 3,3',4,4'-tetramethyl, diethyl ester **95809-13-5P**, [2,2'-Bipyrrole]-3,3',5,5'-tetracarboxylic acid, 4,4'-dimethyl-, tetraethyl ester 155270-90-9P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
- IT 155270-87-4P 155270-88-5P 155270-89-6P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of, as intermediate for bipyrroledicarboxylate)
- IT 4391-95-1, 1H-Pyrrole-2-carboxylic acid, 5-iodo-3,4-dimethyl-, ethyl ester 5462-34-0, 1H-Pyrrole-2,4-dicarboxylic acid, 5-iodo-3-methyl-, diethyl ester 24424-99-5, Di-tert-butyl dicarbonate 76367-42-5, 1H-Pyrrole-2-carboxylic acid, 3-ethyl-5-iodo-4-methyl-, ethyl ester
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for bipyrroledicarboxylate)
- IT **95809-13-5P**, [2,2'-Bipyrrole]-3,3',5,5'-tetracarboxylic acid, 4,4'-dimethyl-, tetraethyl ester
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
- RN 95809-13-5 HCAPLUS
- CN [2,2'-Bi-1H-pyrrole]-3,3',5,5'-tetracarboxylic acid, 4,4'-dimethyl-, tetraethyl ester (9CI) (CA INDEX NAME)



- IT **155270-89-6P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of, as intermediate for bipyrroledicarboxylate)
- RN 155270-89-6 HCAPLUS
- CN 1H-Pyrrole-1,2,4-tricarboxylic acid, 5-iodo-3-methyl-, 1-(1,1-dimethylethyl) 2,4-diethyl ester (9CI) (CA INDEX NAME)



L43 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1993:233807 HCAPLUS
 DN 118:233807
 ED Entered STN: 12 Jun 1993
 TI Synthesis of the first .alpha.-linked quaterpyrrole
 AU Ikeda, Hidetsugu; Sessler, Jonathan L.
 CS Dep. Chem. Biochem., Univ. Texas, Austin, TX, 78712, USA
 SO Journal of Organic Chemistry (1993), 58(8), 2340-2
 CODEN: JOCEAH; ISSN: 0022-3263
 DT Journal
 LA English
 CC 27-10 (Heterocyclic Compounds (One Hetero Atom))
 GI



AB The first synthesis of an .alpha.-linked quaterpyrrole, hexaethyl 4,4',3",4'"-tetramethyl-2,2':5',2":5",2'"-quaterpyrrole-3,5,3',4",3'",5'"-hexacarboxylate (I, R = CO2Et), is described. Thus, bipyrroletetracarboxylate II was selectively hydrolyzed with KOH, iodinated with iodine/KI, and coupled in the presence of Cu0 to give I (R = CO2Et). I (R = CO2Et) was remarkably stable under normal laboratory conditions and could be readily transformed to its corresponding .alpha.- and .beta.-free derivative, I (R = H). This latter material, although stable in the absence of air, decomposed in a matter of hours when dissolved in

air-saturated chloroform.

ST quaterpyrrole; pyrrole quater

IT 147438-02-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and Ullmann coupling of)

IT 147438-03-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and decarboxylation of)

IT 147417-22-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and iodination of)

IT 147438-04-8P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

IT 95809-13-5

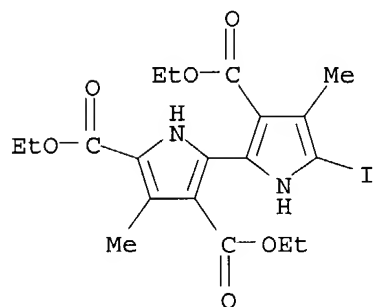
RL: RCT (Reactant); RACT (Reactant or reagent) (selective hydrolysis of)

IT 147438-02-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and Ullmann coupling of)

RN 147438-02-6 HCAPLUS

CN [2,2'-Bi-1H-pyrrole]-3,3',5-tricarboxylic acid, 5'-iodo-4,4'-dimethyl-, triethyl ester (9CI) (CA INDEX NAME)

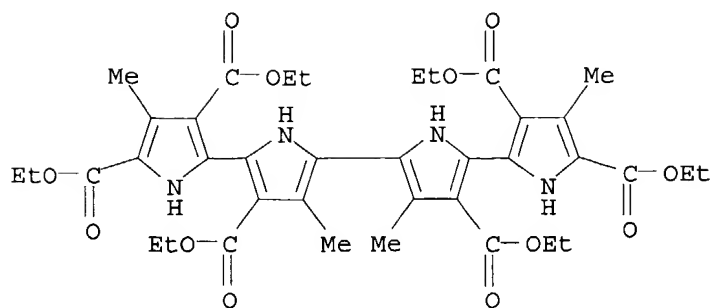


IT 147438-03-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and decarboxylation of)

RN 147438-03-7 HCAPLUS

CN [2,2':5',2'':5'',2'''-Quater-1H-pyrrole]-3,3',3'',4'',5,5'''-hexacarboxylic acid, 3'',4,4',4'''-tetramethyl-, hexaethyl ester (9CI) (CA INDEX NAME)

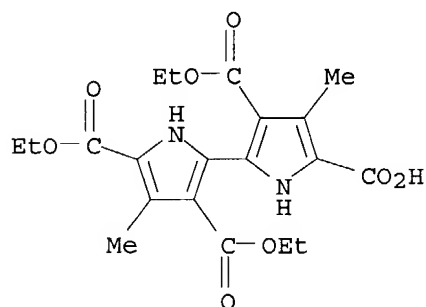


IT 147417-22-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and iodination of)

RN 147417-22-9 HCAPLUS

CN [2,2'-Bi-1H-pyrrole]-3,3',5,5'-tetracarboxylic acid, 4,4'-dimethyl-, 3,3',5-triethyl ester, monopotassium salt (9CI) (CA INDEX NAME)



● K

L43 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1987:617415 HCAPLUS

DN 107:217415

ED Entered STN: 12 Dec 1987

TI Regioselectivity of pyrrole synthesis from diethyl aminomalonate and 1,3-diketones: further observations

AU Paine, John B., III; Brough, Jonathan R.; Buller, Kathy K.; Erikson, Erika E.

CS North Texas State Univ., Denton, TX, 76201, USA

SO Journal of Organic Chemistry (1987), 52(18), 3986-93

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

CC 27-10 (Heterocyclic Compounds (One Hetero Atom))

OS CASREACT 107:217415

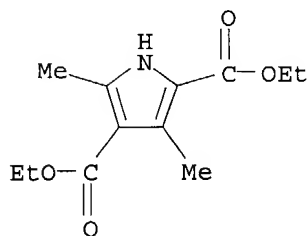
GI For diagram(s), see printed CA Issue.

AB Tetrahydroindoles I (R = Me, Et) were prepared as the major product by cyclocondensation of 2-acylcyclohexanones II (n = 4) with (EtO₂C)₂CHNH₂ (III). In contrast, reaction of 2-acylcyclopentanones II (n = 3) gave

cyclopentapyrroles IV. The structures of the products IV and I correlated with the structure of the enol-form of diketone II ($n = 3,4$) resp. Cyclocondensation of III with $\text{PhCOCHR}_1\text{COR}_2$ ($\text{R}_1 = \text{R}_2 = \text{Me, Et}$) gave 3-phenylpyrroles V ($\text{R} = \text{Ph}$, same R_1, R_2) as the exclusive product. Similarly, EtCOCHPhCOR_2 ($\text{R}_2 = \text{Me, Et}$) gave V ($\text{R} = \text{Et}$, $\text{R}_1 = \text{Ph}$, same R_2). The yields varied with the structural class and decreased with increasing steric hindrance.

- ST pyrrolecarboxylate alkyl regioselective prepn; indolecarboxylate tetrahydro regioselective prepn; aminomalonate diketone regioselective cyclocondensation; tautomerism diketone enol cyclocondensation regiochem; safety fire hazard zinc residue
- IT Fire
(hazard, from zinc residue in Knorr pyrrole synthesis)
- IT Safety
(in handling zinc residue, in Knorr pyrrole synthesis)
- IT Regiochemistry
(of cyclocondensation reaction of diketones with aminomalonate, pyrrolecarboxylates from)
- IT Ketones, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(1,3-di-, cyclocondensation reaction of, with aminomalonate, pyrrolecarboxylates from)
- IT Tautomerization
(enolization, in diketones, regiochem. of cyclocondensation reaction in relation to)
- IT Cyclocondensation reaction
(regioselective, of diketones with aminomalonate, pyrrolecarboxylates from)
- IT 120-92-3, Cyclopentanone
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation of)
- IT 1007-32-5, 1-Phenyl-2-butanone
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of, with propionic anhydride)
- IT 6829-41-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalytic hydrogenation and cyclocondensation reaction of, with diketones)
- IT 5408-04-8, Ethyl .alpha.-oximinoacetoacetate
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with acetylcyclohexanone)
- IT 1068-90-2P, Diethyl acetamidomalonate
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in cyclocondensation reaction of acetylcyclopentanone with aminomalonate)
- IT **2436-79-5P**, Diethyl 3,5-dimethyl-2,4-pyrroledicarboxylate
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, in cyclocondensation reaction of oximinoacetoacetate with acetylcyclohexanone)
- IT 39581-95-8P 39581-96-9P 106889-95-6P 109839-21-6P 109839-22-7P
109839-25-0P 109839-32-9P 109839-33-0P 109839-34-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclocondensation of, with di-Et aminomalonate)
- IT 874-23-7P, 2-Acetylcyclohexanone 1670-46-8P, 2-Acetylcyclopentanone
1704-13-8P 6668-24-2P 7307-04-2P, 5,5-Dimethyl-2,4-hexanedione
7391-48-2P, 2-Propionylcyclopentanone 13618-19-4P 20734-29-6P,
2,2-Dimethyl-3,5-heptanedione 21173-96-6P 29926-33-8P 32316-46-4P,
2-Propionylcyclohexanone 59892-35-2P 91034-59-2P 109839-12-5P
109839-30-7P 109839-31-8P 109839-35-2P 109839-36-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and cyclocondensation reaction of, with di-Et aminomalonate)
 IT 6829-40-9P, Diethyl aminomalonate
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and cyclocondensation reaction of, with diketones)
 IT 37945-37-2P 89649-45-6P 89649-57-0P 109839-13-6P 109839-14-7P
 109839-15-8P 109839-16-9P 109839-17-0P 109839-18-1P 109839-19-2P
 109839-20-5P 109839-23-8P 109839-24-9P 109839-26-1P 109839-27-2P
 109839-28-3P 109839-29-4P 109839-37-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 141-97-9, Ethyl acetoacetate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with sodium nitrite)
 IT 15489-55-1 109839-38-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with sulfuric acid)
 IT **2436-79-5P**, Diethyl 3,5-dimethyl-2,4-pyrroledicarboxylate
 RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
 (formation of, in cyclocondensation reaction of oximinoacetoacetate with acetylcyclohexanone)
 RN 2436-79-5 HCAPLUS
 CN 1H-Pyrrole-2,4-dicarboxylic acid, 3,5-dimethyl-, diethyl ester (9CI) (CA INDEX NAME)



L43 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1978:508536 HCAPLUS
 DN 89:108536
 ED Entered STN: 12 May 1984
 TI A facile synthesis of acid esters
 AU Kasina, Sudhakar; Nematollahi, Jay
 CS Coll. Pharm., Univ. Texas, Austin, TX, USA
 SO Tetrahedron Letters (1978), (16), 1403-6
 CODEN: TELEAY; ISSN: 0040-4039
 DT Journal
 LA English
 CC 25-18 (Noncondensed Aromatic Compounds)
 Section cross-reference(s): 22
 OS CASREACT 89:108536
 AB On treatment with H₂NNMe₂, polyesters underwent selective demethylation at the least hindered site to give monoacid polyesters. E.g., a 1:5 molar ratio mixture of 1,3,5-(MeO₂C)₃C₆H₃ and H₂NNMe₂ was left at room temperature for 24-36 h or heated to reflux for 6-12 h and evaporated in vacuo to give 92% 3,5-(MeO₂C)₂C₆H₃CO₂H.
 ST benzenepolycarboxylate stereochem demethylation methylhydrazine; hydrazine

methyl demethylation polyester; carboxylic acid methoxycarbonyl; ester carboxy

IT Esters, preparation
(carboxy, preparation of, by partial demethylation of polyesters)

IT Carboxylic acids, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(methoxycarbonyl, preparation of, by partial demethylation of polyesters)

IT Stereochemistry
(regioselectivity, in demethylation of polyesters by dimethylhydrazine)

IT Demethylation
(selective, of polyesters)

IT 302-01-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with acid diesters)

IT 57-14-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(demethylation by, of polyesters, stereochem. of)

IT 635-10-9 2459-10-1 2672-57-3 2672-58-4 3451-02-3 23893-69-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(demethylation of, by dimethylhydrazine, stereochem. of)

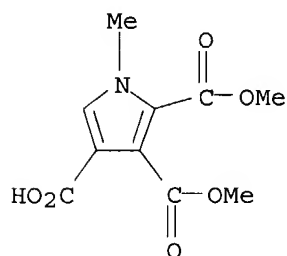
IT 54699-35-3P 67402-72-6P **67402-73-7P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation);** RACT (Reactant or reagent)
(preparation and cyclocondensation reaction of, with hydrazines)

IT 38588-64-6P 42972-13-4P 67402-74-8P 67402-75-9P 67402-76-0P
67402-77-1P 67402-78-2P 67402-79-3P 67402-80-6P 67402-81-7P
67402-82-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT **67402-73-7P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation);** RACT (Reactant or reagent)
(preparation and cyclocondensation reaction of, with hydrazines)

RN 67402-73-7 HCAPLUS

CN 1H-Pyrrole-2,3,4-tricarboxylic acid, 1-methyl-, 2,3-dimethyl ester (9CI)
(CA INDEX NAME)



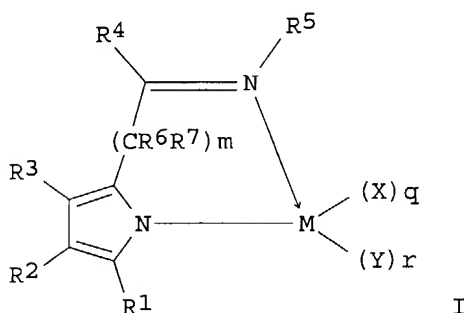
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L45 ANSWER 1 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:200444 HCAPLUS
DN 140:236211
ED Entered STN: 12 Mar 2004
TI Transition metal complexes having iminoalkylpyrrole-containing ligands for
catalysts in manufacture of .alpha.-olefin polymers
IN Majima, Kazushi; Tsurugi, Hayato; Tani, Kazuhide

PA Mitsubishi Chemical Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 25 pp.
 CODEN: JKXXAF
 DT **Patent**
 LA Japanese
 IC ICM C08F004-642
 ICS C07D207-335; C07F007-00; C08F010-00
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 29, 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004075878	A2	20040311	JP 2002-239077	20020820 <--
PRAI	JP 2002-239077		20020820 <--		
OS	MARPAT 140:236211				
GI					



AB The complexes for giving extrudable or injection-moldable high-mol.-weight high-m.p. .alpha.-olefin polymers in high yield have structures represented by I {M = Group 3-10 lanthanide; X = benzyl-containing .sigma.-bondable ligand bonded to M; Y = Lewis base; r, m = 0-3; q = 1-5 satisfying [(valence of M) - 1]; R1-R7 = H, hydrocarbyl, Si-, O, or N-containing hydrocarbyl, halogenated hydrocarbyl; when m = 2 or 3, plural R6 and R7 may be same or different}. Claimed catalysts for polymerization of .alpha.-olefins contain the above complexes and aluminumoxy compds., ionic compds. reacting with the complexes to convert the complexes to cations, and/or Lewis acids. Thus, ethylene was polymerized in the presence of [2-[N-(2,6-dimethylphenyl)iminomethyl]pyrrolyl](tribenzyl)zirconium and MMAO (Me alumoxane) for 60 min at room temperature to give 63.5 mg polyethylene while showing catalyst activity 34 g-polymer/g-complex-h.

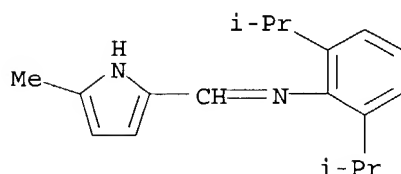
ST iminoalkylpyrrole transition metal complex olefin polymn catalyst; ethylene polymn catalyst dimethylphenyliminomethylpyrrolyltribenzylzirconium alumoxane

IT Aluminoxanes
 RL: CAT (Catalyst use); USES (Uses)
 (Me, MMAO, cocatalyst; transition metal complexes having iminoalkylpyrrole-containing ligands for catalysts in manufacture of .alpha.-olefin polymers)

IT **Lewis acids**
 RL: CAT (Catalyst use); USES (Uses)
 (cocatalyst; transition metal complexes having iminoalkylpyrrole-containing ligands for catalysts in manufacture of .alpha.-olefin polymers)

IT Polymerization catalysts
 (transition metal complexes having iminoalkylpyrrole-containing ligands for catalysts in manufacture of .alpha.-olefin polymers)

- IT Transition metal complexes
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
 USES (Uses)
 (transition metal complexes having iminoalkylpyrrole-containing ligands for
 catalysts in manufacture of .alpha.-olefin polymers)
- IT Polyolefins
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (transition metal complexes having iminoalkylpyrrole-containing ligands for
 catalysts in manufacture of .alpha.-olefin polymers)
- IT 98-54-4, 4-tert-Butylphenol 24356-01-2, (Tetrabenzyl)zirconium
 31406-67-4, (Tetrabenzyl)hafnium
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (catalyst from; transition metal complexes having iminoalkylpyrrole-
 containing ligands for catalysts in manufacture of .alpha.-olefin polymers)
- IT 608527-52-2P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent); USES (Uses)
 (catalyst, catalyst from; transition metal complexes having
 iminoalkylpyrrole-containing ligands for catalysts in manufacture of
 .alpha.-olefin polymers)
- IT 608527-51-1P 667419-95-6P 667419-96-7P 667419-97-8P 667420-24-8P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
 USES (Uses)
 (catalyst; transition metal complexes having iminoalkylpyrrole-containing
 ligands for catalysts in manufacture of .alpha.-olefin polymers)
- IT 1192-79-6, 2-Formyl-5-methylpyrrole 24544-04-5, 2,6-Diisopropylaniline
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (ligand from; transition metal complexes having iminoalkylpyrrole-
 containing ligands for catalysts in manufacture of .alpha.-olefin polymers)
- IT **667419-94-5P**
 RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP**
(Preparation); RACT (Reactant or reagent)
 (ligand; transition metal complexes having iminoalkylpyrrole-containing
 ligands for catalysts in manufacture of .alpha.-olefin polymers)
- IT 93369-32-5 210882-44-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (ligand; transition metal complexes having iminoalkylpyrrole-containing
 ligands for catalysts in manufacture of .alpha.-olefin polymers)
- IT 9002-88-4P, Polyethylene
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (transition metal complexes having iminoalkylpyrrole-containing ligands for
 catalysts in manufacture of .alpha.-olefin polymers)
- IT **667419-94-5P**
 RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP**
(Preparation); RACT (Reactant or reagent)
 (ligand; transition metal complexes having iminoalkylpyrrole-containing
 ligands for catalysts in manufacture of .alpha.-olefin polymers)
- RN 667419-94-5 HCAPLUS
 CN Benzenamine, 2,6-bis(1-methylethyl)-N-[(5-methyl-1H-pyrrol-2-yl)methylene]-
 (9CI) (CA INDEX NAME)



L45 ANSWER 2 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2004:167905 HCAPLUS
 DN 140:163581
 ED Entered STN: 02 Mar 2004
 TI Preparation of chiral (R)- and (S)-2-hydroxy-4-arylbutyric acids
 IN Mi, Aiqiao; Lin, Wenqing; He, Ze; Zhang, Xiaomei; Yi, Jing; Jiang, Yaozhong
 PA Chengdu Institute of Organic Chemistry, Chinese Academy of Sciences, Peop. Rep. China
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 9 pp.
 CODEN: CNXXEV

DT **Patent**

LA Chinese

IC ICM C07C059-48

ICS C07C051-083; C07C051-48

CC 25-17 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1370767	A	20020925	CN 2001-107195	20010227 <--
PRAI	CN 2001-107195		20010227 <--		

OS CASREACT 140:163581

AB The process comprises acylating and dehydrating D- or L-malic acid with acetyl chloride or acetic anhydride in solvent (such as THF, dioxane, Et acetate, iso-Pr ether, etc) at 15-120.degree. for 0.5-48 h to obtain (S)- or (R)-2-acetoxybutanedioic anhydride; selectively acylating with aromatic compound (such as benzene, naphthalene, thiophene, pyrrole, or their derivs. substituted by C1-10 alkyl or alkoxy, OH, halo, mercapto, amino, etc) in solvent (such as benzene, nitrobenzene, nitromethane, dichloromethane, etc) in the presence of POCl3 or Lewis acid at 0-100.degree. for 0.5-48 h to obtain (S)- or (R)-2-hydroxy-4-oxo-4-arylbutyric acid; reducing with reductant or hydrogenating to obtain (S)- or (R)-2-acetoxy-4-arylbutyric acid; and hydrolyzing with acid or base at 0-100.degree. for 0.5-48 h.

ST arylbutyric acid hydroxy chiral prepn

IT Friedel-Crafts reaction catalysts

(Lewis acids; preparation of chiral 2-hydroxy-4-arylbutyric acids from L- or D-malic acid via Friedel-Crafts acylation)

IT Polyphosphoric acids

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral 2-hydroxy-4-arylbutyric acids from L- or D-malic acid)

IT Friedel-Crafts reaction

(preparation of chiral 2-hydroxy-4-arylbutyric acids from L- or D-malic acid via Friedel-Crafts acylation)

IT **Lewis acids**

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral 2-hydroxy-4-arylbutyric acids from L- or D-malic acid via Friedel-Crafts acylation)

IT 7446-70-0, Aluminum trichloride, uses 7550-45-0, Titanium tetrachloride, uses 7646-78-8, Tin tetrachloride, uses 7646-85-7, Zinc chloride, uses 7705-08-0, Ferric chloride, uses 10025-87-3, Phosphoryl chloride

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral 2-hydroxy-4-arylbutyric acids from L- or D-malic acid)

IT 600-15-7DP, 2-Hydroxybutyric acid, 4-aryl derivs., chiral

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP

(Preparation)

(preparation of chiral 2-hydroxy-4-arylbutyric acids from L- or D-malic acid)

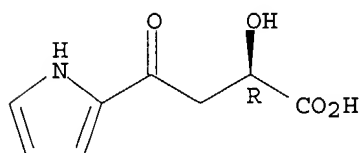
IT 71-43-2, Benzene, reactions 75-36-5, Acetyl chloride 97-67-6, L-Malic acid 108-24-7, Acetic anhydride 636-61-3, D-Malic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of chiral 2-hydroxy-4-arylbutyric acids from L- or D-malic acid)

IT 103-84-4P 123-01-3P 29678-81-7P 115016-95-0P 117017-04-6P
 146912-63-2P 146912-66-5P 188540-85-4P 691410-01-2P 691410-07-8P
691410-08-9P 691410-09-0P 691410-12-5P 691410-14-7P
 RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
 (preparation of chiral 2-hydroxy-4-arylbutyric acids from L- or D-malic acid)

IT **691410-08-9P**
 RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
 (preparation of chiral 2-hydroxy-4-arylbutyric acids from L- or D-malic acid)

RN 691410-08-9 HCAPLUS
 CN 1H-Pyrrole-2-butanolic acid, .alpha.-hydroxy-.gamma.-oxo-, (.alpha.R)-
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.

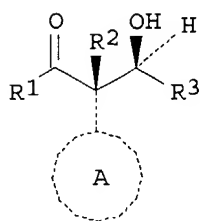


L45 ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2003:884537 HCAPLUS
 DN 139:364827
 ED Entered STN: 12 Nov 2003
 TI Preparation of heterocyclic compounds having asymmetric centers
 IN Suzuki, Keisuke; Shinohara, Tomokazu
 PA Japan Science and Technology Corporation, Japan
 SO Jpn. Kokai Tokkyo Koho, 29 pp.
 CODEN: JKXXAF

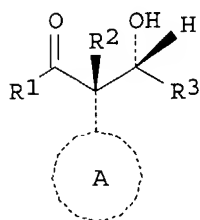
DT **Patent**
 LA Japanese
 IC ICM C07D207-333
 ICS C07B053-00; C07D209-12; C07D307-46; C07D307-80; C07D333-22;
 C07D333-56; C07B061-00; C07M007-00

CC 27-11 (Heterocyclic Compounds (One Hetero Atom))
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003321445	A2	20031111	JP 2002-127530	20020426 <--
PRAI	JP 2002-127530		20020426	<--	
OS	MARPAT 139:364827				
GI					



I



II

- AB Title compds., e.g., I or II (R1-R3 = H, (un)substituted C1-20 hydrocarbyl; ring A = 5- to 11-membered heterocyclic ring), are prepared by rearrangement of epoxy alcs., etc. in the presence of Lewis acids. (4R*,5S*)-3-(1-benzenesulfonyl-1H-indol-3-yl)-4,5-epoxy-3-hydroxy-4-methyl-1-phenylhexane (preparation given) was treated with BF3.OEt2 in CH2Cl2 at -78.degree. for 30 min to give 97% I [R1 = Ph(CH2)2, R2 = R3 = Me, A = 1-benzenesulfonyl-1H-indol-3-yl].
- ST heterocyclic compd asym prepn; epoxy alc rearrangement asym Lewis acid
- IT Asymmetric synthesis and induction
(preparation of heterocyclic compds. having asym. centers via stereoselective rearrangement using Lewis acids)
- IT **Lewis acids**
RL: CAT (Catalyst use); USES (Uses)
(preparation of heterocyclic compds. having asym. centers via stereoselective rearrangement using Lewis acids)
- IT Rearrangement
(stereoselective; preparation of heterocyclic compds. having asym. centers via stereoselective rearrangement using Lewis acids)
- IT 96-10-6, Diethylaluminum chloride, uses 97-93-8, Triethylaluminum, uses 109-63-7
RL: CAT (Catalyst use); USES (Uses)
(preparation of heterocyclic compds. having asym. centers via stereoselective rearrangement using Lewis acids)
- IT 110-00-9, Furan 110-02-1, Thiophene 271-89-6, 2,3-Benzofuran 932-66-1, 1-Acetyl-1-cyclohexene 99655-68-2, 1-Benzenesulfonyl-3-bromo-1H-indol 181573-15-9 476682-67-4 476682-70-9 476682-71-0
476682-73-2 621684-77-3 621684-78-4 621684-79-5 621684-80-8
621684-81-9 621684-82-0 621684-83-1 621684-84-2 621684-85-3
621684-86-4 621684-87-5 621684-88-6 621685-03-8 621685-04-9
621685-05-0 621685-06-1 621685-07-2 621685-08-3 621685-09-4
621685-10-7 621685-11-8 621685-12-9 621685-30-1 621685-32-3
621685-34-5 621685-35-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of heterocyclic compds. having asym. centers via stereoselective rearrangement using Lewis acids)
- IT 152589-56-5P 476682-60-7P 476682-64-1P 476682-69-6P 621684-75-1P

621684-76-2P 621685-29-8P 621685-33-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of heterocyclic compds. having asym. centers via stereoselective rearrangement using Lewis acids)

IT 152589-76-9P 205238-31-9P 476682-66-3P 476682-78-7P 476682-79-8P
 476682-86-7P 476682-87-8P 476682-88-9P 476682-90-3P 518058-28-1P
 621684-89-7P 621684-90-0P **621684-91-1P** 621684-92-2P
 621684-93-3P 621684-94-4P 621684-95-5P 621684-96-6P
621684-97-7P 621684-98-8P 621684-99-9P 621685-00-5P
 621685-01-6P 621685-02-7P 621685-13-0P 621685-14-1P
621685-15-2P 621685-16-3P 621685-17-4P 621685-18-5P
 621685-19-6P 621685-20-9P 621685-21-0P 621685-22-1P 621685-23-2P
 621685-24-3P 621685-25-4P 621685-26-5P **621685-27-6P**
 621685-28-7P 621685-31-2P 621685-36-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of heterocyclic compds. having asym. centers via stereoselective rearrangement using Lewis acids)

IT **621684-91-1P 621684-97-7P 621685-15-2P**
621685-27-6P

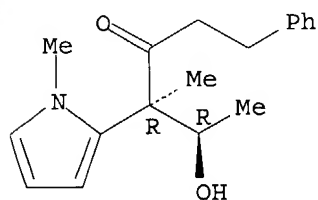
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of heterocyclic compds. having asym. centers via stereoselective rearrangement using Lewis acids)

RN 621684-91-1 HCAPLUS

CN 3-Hexanone, 5-hydroxy-4-methyl-4-(1-methyl-1H-pyrrol-2-yl)-1-phenyl-,
 (4R,5R)-rel- (9CI) (CA INDEX NAME)

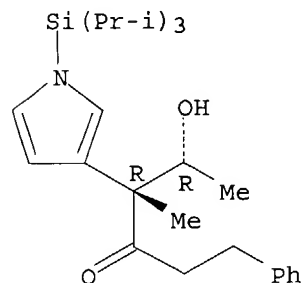
Relative stereochemistry.



RN 621684-97-7 HCAPLUS

CN 3-Hexanone, 5-hydroxy-4-methyl-1-phenyl-4-[1-[tris(1-methylethyl)silyl]-1H-pyrrol-3-yl]-, (4R,5R)-rel- (9CI) (CA INDEX NAME)

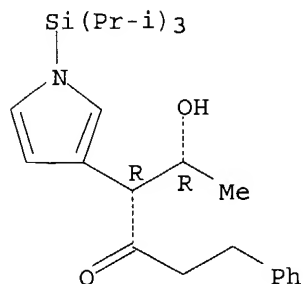
Relative stereochemistry.



RN 621685-15-2 HCAPLUS

CN 3-Hexanone, 5-hydroxy-1-phenyl-4-[1-[tris(1-methylethyl)silyl]-1H-pyrrol-3-yl]-, (4R,5R)-rel- (9CI) (CA INDEX NAME)

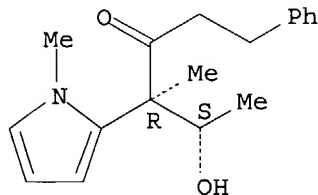
Relative stereochemistry.



RN 621685-27-6 HCAPLUS

CN 3-Hexanone, 5-hydroxy-4-methyl-4-(1-methyl-1H-pyrrol-2-yl)-1-phenyl-,
(4R,5S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L45 ANSWER 4 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:261807 HCAPLUS

DN 138:271449

ED Entered STN: 04 Apr 2003

TI Methods of making porphyrins and related compounds via Lewis
acid-catalyzed condensation

IN Lindsey, Jonathan S.; Geier, G. Richard, III; Yu, Lianhe

PA North Carolina State University, USA

SO PCT Int. Appl., 61 pp.

CODEN: PIXXD2

DT **Patent**

LA English

IC ICM C07D

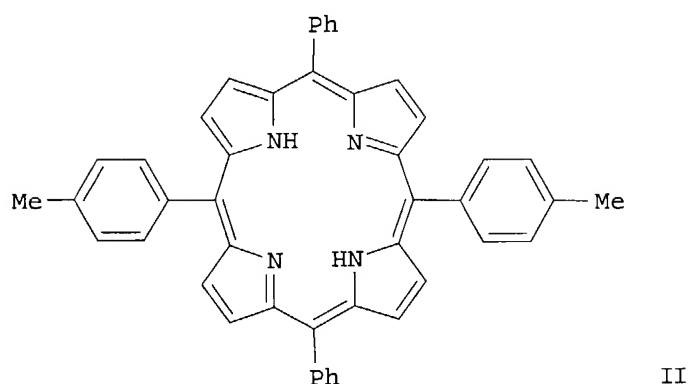
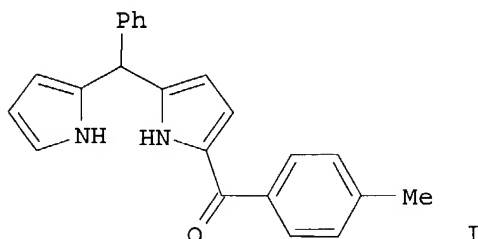
CC 26-7 (Biomolecules and Their Synthetic Analogs)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003027066	A2	20030403	WO 2002-US29783	20020919 <--
	WO 2003027066	A3	20030828		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

Searched by Noble Jarrell

US 2003096978 A1 20030522 US 2001-962742 20010925 <--
 PRAI US 2001-962742 A 20010925 <--
 OS CASREACT 138:271449
 GI



AB The present invention provides methods of making porphyrins and related compds. such as chlorins by condensing suitable starting materials (e.g., a dipyrromethane-dicarbinol plus dipyrromethane) in a polar solvent in the presence of a Lewis acid. The reactions are preferably carried out in a manner that minimizes rearrangement of the reaction product. Thus, I was reacted with NaBH₄, then InCl₃ followed by DDQ to give II in 32% yield.

ST porphyrin prepn Lewis acid catalyzed condensation

IT Condensation reaction

Condensation reaction catalysts

(preparation of porphyrins and related compds. via Lewis acid-catalyzed condensation)

IT **Lewis acids**

RL: CAT (Catalyst use); USES (Uses)

(preparation of porphyrins and related compds. via Lewis acid-catalyzed condensation)

IT Metalloporphyrins

Porphyrins

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation of porphyrins and related compds. via Lewis acid-catalyzed condensation)

IT 97-94-9, Triethylboron 1318-93-0, Montmorillonite ((Al_{1.33}-1.67Mg_{0.33}-0.67)(Ca₀-1Na₀-1)0.33Si₄(OH)2010.xH₂O), uses 7550-45-0, Titanium tetrachloride, uses 7647-17-8, Cesium chloride, uses 7784-18-1, Aluminum trifluoride 7788-97-8, Chromium trifluoride 10025-76-0, Europium trichloride 10025-82-8, Indium trichloride 10099-58-8, Lanthanum trichloride 10361-82-7, Samarium trichloride 13450-95-8,

Germanium tetraiodide 54761-04-5, Ytterbium triflate 144026-79-9,
Scandium triflate

RL: CAT (Catalyst use); USES (Uses)

(preparation of porphyrins and related compds. via Lewis acid-catalyzed condensation)

IT 113508-96-6P 132313-39-4P 211360-58-6P 389799-88-6P 389799-89-7P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP

(Preparation)

(preparation of porphyrins and related compds. via Lewis acid-catalyzed condensation)

IT 109-97-7, Pyrrole 142-61-0, n-Hexanoyl chloride 2637-34-5,
2-Mercaptopyridine 14377-33-4, 3,5-Di-tert-butylbenzoyl chloride
21211-65-4 39178-35-3, Isonicotinoyl chloride hydrochloride 52073-75-3
74032-45-4 107798-98-1, 5-Phenyldipyrromethane 128376-64-7
147804-55-5 159152-14-4 171523-03-8 266341-16-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of porphyrins and related compds. via Lewis acid-catalyzed condensation)

IT 19337-35-0P 214554-40-2P 389799-72-8P
389799-73-9P 430433-06-0P 430433-07-1P
430433-08-2P 430433-09-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(preparation of porphyrins and related compds. via Lewis acid-catalyzed condensation)

IT 214554-40-2P 389799-72-8P 389799-73-9P
430433-07-1P 430433-08-2P 430433-09-3P

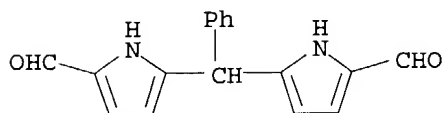
RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(preparation of porphyrins and related compds. via Lewis acid-catalyzed condensation)

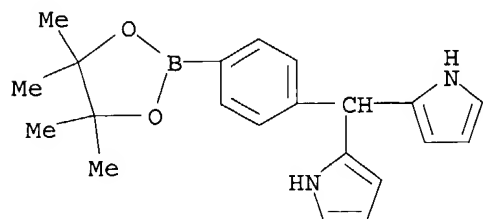
RN 214554-40-2 HCAPLUS

CN 1H-Pyrrole-2-carboxaldehyde, 5,5'-(phenylmethylene)bis- (9CI) (CA INDEX NAME)



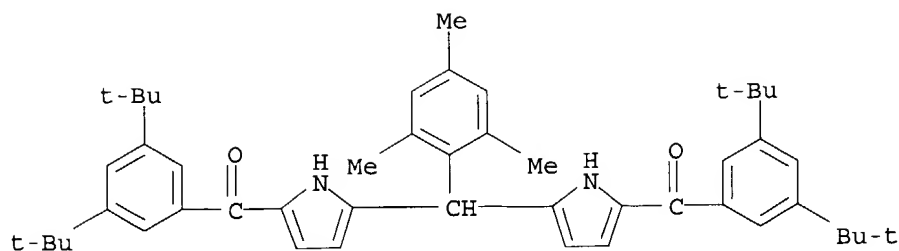
RN 389799-72-8 HCAPLUS

CN 1H-Pyrrole, 2,2'-[[4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]methylene]bis- (9CI) (CA INDEX NAME)



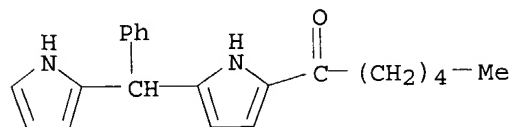
RN 389799-73-9 HCAPLUS

CN Methanone, [[[2,4,6-trimethylphenyl]methylene]di-1H-pyrrole-5,2-diyl]bis[[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



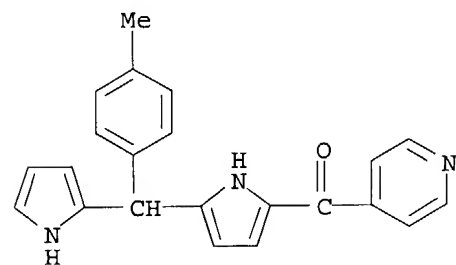
RN 430433-07-1 HCAPLUS

CN 1-Hexanone, 1-[5-(phenyl-1H-pyrrol-2-ylmethyl)-1H-pyrrol-2-yl]- (9CI) (CA INDEX NAME)



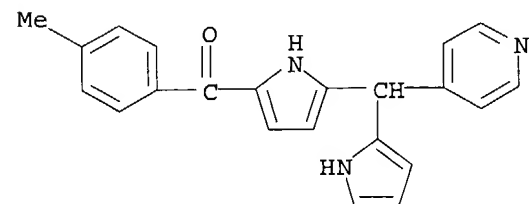
RN 430433-08-2 HCAPLUS

CN Methanone, [5-[(4-methylphenyl)-1H-pyrrol-2-ylmethyl]-1H-pyrrol-2-yl]-4-pyridinyl- (9CI) (CA INDEX NAME)



RN 430433-09-3 HCAPLUS

CN Methanone, (4-methylphenyl)[5-(4-pyridinyl-1H-pyrrol-2-ylmethyl)-1H-pyrrol-2-yl]- (9CI) (CA INDEX NAME)



L45 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:575117 HCAPLUS

DN 137:125533

Searched by Noble Jarrell

ED Entered STN: 02 Aug 2002
 TI Polymerization of olefinic compounds by polymerization catalyst complexes
 containing phosphino, amino, or imino groups
 IN Brookhart, Maurice S.; Kunitsky, Keith; Malinoski, Jon M.; Wang, Lin;
 Wang, Yin; Liu, Weijun; Johnson, Lynda Kaye; Kreutzer, Kristina A.; Ittel,
 Steven Dale
 PA E. I. Du Pont de Nemours & Co., USA
 SO PCT Int. Appl., 77 pp.
 CODEN: PIXXD2
 DT **Patent**
 LA English
 IC ICM C08F010-00
 CC 35-3 (Chemistry of Synthetic High Polymers)
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002059165	A2	20020801	WO 2002-US3088	20020125 <--
	WO 2002059165	A3	20030522		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2002032289	A1	20020314	US 2001-871099	20010531 <--
	US 2003125485	A1	20030703	US 2002-57090	20020125 <--
	US 6710007	B2	20040323		
	EP 1355956	A2	20031029	EP 2002-709300	20020125 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
	JP 2004517933	T2	20040617	JP 2002-559466	20020125 <--
PRAI	US 2001-264537P	P	20010125 <--		
	US 2001-294794P	P	20010531 <--		
	US 2001-871099	A	20010531 <--		
	US 2000-208087P	P	20000531 <--		
	US 2000-211601P	P	20000615 <--		
	US 2000-214036P	P	20000623 <--		
	WO 2002-US3088	W	20020125 <--		

OS MARPAT 137:125533

AB Certain complexes containing ligands having a phosphino group, amino group, or an imino group, and a second functional group such as amide, ester, or ketone, when complexed to transition metals, catalyze the (co)polymerization of olefinic compds. such as ethylene, .alpha.-olefins and/or acrylates. A newly recognized class of ligands for making copolymer containing polar monomers using late transition metal complexes is described.

ST metal complex olefin polymn catalyst

IT Aluminoxanes

RL: CAT (Catalyst use); USES (Uses)

(Me, optionally modifier, cocatalyst; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino

groups)

IT **Lewis acids**

RL: CAT (Catalyst use); USES (Uses)

(cocatalyst; polymerization of olefinic compds. by polymerization catalyst

complexes

containing phosphino, amino, or imino groups)

IT Polymerization catalysts
 (polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)

IT 7550-45-0, Titanium tetrachloride, uses 7646-79-9, Cobalt(II) chloride, uses 7758-94-3, Iron(II) chloride 10026-11-6, Zirconium tetrachloride
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst component; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)

IT 220313-59-7P 378797-06-9P 378797-08-1P 378797-10-5P 378797-14-9P
 378797-16-1P 378797-18-3P 444107-56-6P 444107-61-3P 444107-64-6P
 444107-66-8P 444107-69-1P 444107-72-6P 444107-74-8P 444107-77-1P
 444107-88-4P 444107-90-8P 444107-92-0P 444107-95-3P 444107-96-4P
 444107-98-6P 444108-00-3P 444108-02-5P 444108-04-7P 444108-06-9P
 444108-07-0P 444108-09-2P 444108-18-3P 444108-21-8P 444108-24-1P
 444108-26-3P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (catalyst; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)

IT 444107-86-2P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (catalyst; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)

IT 960-71-4, Triphenylboron 1109-15-5, Tris(pentafluorophenyl)boron 2797-28-6
 RL: CAT (Catalyst use); USES (Uses)
 (cocatalyst; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)

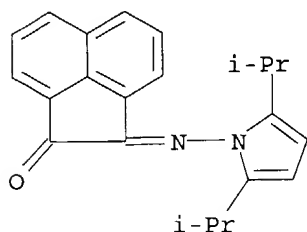
IT 444108-22-9P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (intermediate; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)

IT 444107-81-7P 444107-82-8P 444107-83-9P 444107-84-0P 444107-93-1P
 444108-16-1P 444108-19-4P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediate; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)

IT 131135-24-5P 444107-59-9P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (ligand, optionally catalyst component; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)

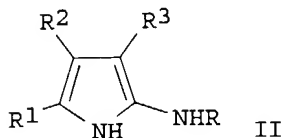
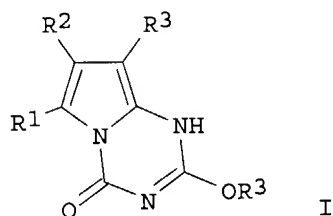
IT 58810-61-0P 70533-06-1P 71626-44-3P 73431-71-7P 73431-72-8P
 444107-53-3P 444107-54-4P 444107-57-7P 444107-58-8P 444107-62-4P
 444107-67-9P 444107-70-4P 444107-75-9P 444107-78-2P 444107-79-3P
 444107-80-6P 444108-10-5P 444108-11-6P **444108-14-9P**
 444108-15-0P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (ligand; polymerization of olefinic compds. by polymerization catalyst complexes

containing phosphino, amino, or imino groups)
 IT 311817-91-1 444108-13-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (ligand; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)
 IT 121281-53-6
 RL: CAT (Catalyst use); USES (Uses)
 (polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)
 IT 9002-88-4P, Polyethylene 25052-62-4P, Carbon monoxide-ethylene copolymer 25067-06-5P, 1-Hexene homopolymer 26636-18-0P, Ethylene-hexyl acrylate copolymer 29356-56-7P 109264-51-9P 112155-82-5P 220230-29-5P 220230-30-8P 220230-39-7P 378793-58-9P, Ethylene-2-phenoxyethyl acrylate copolymer 379216-91-8P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)
 IT 60-29-7, Diethyl ether, reactions 70-11-1 75-05-8, Acetonitrile, reactions 82-86-0, Acenaphthenequinone 83-01-2, Diphenylcarbaryl chloride 87-62-7, 2,6-Dimethylaniline 88-05-1, 2,4,6-Trimethylaniline 91-56-5, Isatin 96-32-2, Methyl bromoacetate 98-86-2, Acetophenone, reactions 100-39-0, Benzyl bromide 383-53-9 600-22-6, Methyl pyruvate 615-13-4, 2-Indanone 819-19-2, Di-tert-butylphosphine 1885-14-9, Phenyl chloroformate 2058-74-4, 1-Methylisatin 2632-13-5 4437-51-8, 3,4-Hexanedione 5061-21-2, .alpha.-Bromo-.gamma.-butyrolactone 5469-26-1 12145-00-5 13716-10-4 16523-54-9 17432-44-9 19966-86-0 24544-04-5, 2,6-Diisopropylaniline 24596-19-8, 4-Bromo-2,6-dimethylaniline 28923-39-9 29059-07-2, Tetralone 63133-82-4, 2-Chloro-4,6-dimethylaniline 63936-85-6 64065-07-2 67950-05-4 79060-88-1 187605-76-1 289708-63-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)
 IT 444108-14-9P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (ligand; polymerization of olefinic compds. by polymerization catalyst complexes containing phosphino, amino, or imino groups)
 RN 444108-14-9 HCAPLUS
 CN 1(2H)-Acenaphthylenone, 2-[[2,5-bis(1-methylethyl)-1H-pyrrol-1-yl]imino]-(9CI) (CA INDEX NAME)



AN 2001:857495 HCAPLUS
 DN 136:6013
 ED Entered STN: 27 Nov 2001
 TI Preparation of pyrrolotriazin-4-ones from aminopyrroles and
 isothiocyanatoformic acid esters
 IN Matsushita, Akinori
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKXXAF
 DT **Patent**
 LA Japanese
 IC ICM C07D487-04
 ICS C07B061-00; C07D207-34; C07D207-36
 CC 28-19 (Heterocyclic Compounds (More Than One Hetero Atom))
 FAN.CNT 2

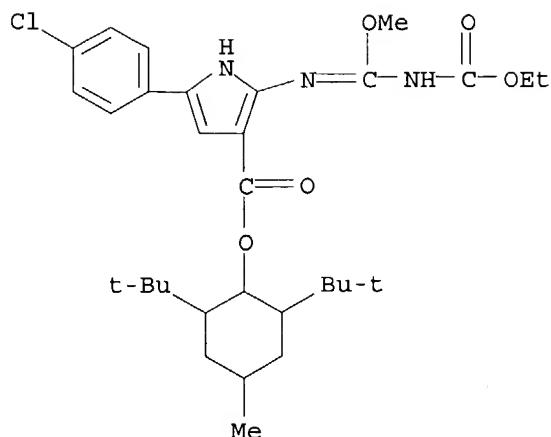
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001328989	A2	20011127	JP 2000-146506	20000518 <--
	US 2002010330	A1	20020124	US 2001-858723	20010517 <--
	US 6600041	B2	20030729		
	US 2002128479	A1	20020912	US 2002-74014	20020214 <--
PRAI	JP 2000-146506	A	20000518	<--	
	JP 2000-146749	A	20000518	<--	
	US 2001-858723	A3	20010517	<--	
OS	CASREACT 136:6013; MARPAT 136:6013				
GI					



AB Pyrrolotriazin-4-ones I (R1 = H, alkyl, aryl, leaving group; R2, R3 = H, alkyl, aryl, cyano, substituted sulfonyl, substituted carbonyl, halo; R5, R6 = C1-4 alkyl; R4, R6 = alkyl, aryl; R5 = alkyl, aryl, heterocyclyl) are prepared by treatment of aminopyrroles II (R = H; R1-R3 = same as above) with R4O2CN:C(SR5)OR6 (R4-R6 = same as above), followed by cyclization of the resulting adducts II [R = C(OR6):NCO2R4; R1-R4, R6 = same as above]. Thus, II (R1 = H, R2 = 4-C6H4, R3 = 2,6-di-tert-butyl-4-methylcyclohexyloxycarbonyl) was treated with EtO2CN:C(SMe)O(CH2)2CHMe(CH2)3CHMe2 and MeSO3H at 55-60.degree. for 24 h and subsequently treated with AcOH and MeONa at 55-60.degree. for 6 h to give the corresponding pyrrolotriazin-4-one derivative with 47% yield.

ST pyrrolo triazinone prepn; aminopyrrole isothiocyanatoformate addn

- cyclization
- IT Sulfonic acids, uses
 RL: CAT (Catalyst use); USES (Uses)
 (alkanesulfonic; preparation of pyrrolotriazin-4-ones from aminopyrroles and isothiocyanatoformic acid esters)
- IT Sulfonic acids, uses
 RL: CAT (Catalyst use); USES (Uses)
 (arenesulfonic; preparation of pyrrolotriazin-4-ones from aminopyrroles and isothiocyanatoformic acid esters)
- IT Addition reaction catalysts
 Cyclization catalysts
 (preparation of pyrrolotriazin-4-ones from aminopyrroles and isothiocyanatoformic acid esters)
- IT Bases, uses
 Carboxylic acids, uses
Lewis acids
 Salts, uses
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of pyrrolotriazin-4-ones from aminopyrroles and isothiocyanatoformic acid esters)
- IT 64-19-7, Acetic acid, uses 75-75-2, Methanesulfonic acid 124-41-4, Sodium methoxide
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of pyrrolotriazin-4-ones from aminopyrroles and isothiocyanatoformic acid esters)
- IT **374896-81-8P**
 RL: **IMF (Industrial manufacture)**; RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
 (preparation of pyrrolotriazin-4-ones from aminopyrroles and isothiocyanatoformic acid esters)
- IT 374896-82-9P 374896-83-0P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (preparation of pyrrolotriazin-4-ones from aminopyrroles and isothiocyanatoformic acid esters)
- IT 51291-78-2 217955-18-5 374540-19-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of pyrrolotriazin-4-ones from aminopyrroles and isothiocyanatoformic acid esters)
- IT **374896-81-8P**
 RL: **IMF (Industrial manufacture)**; RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
 (preparation of pyrrolotriazin-4-ones from aminopyrroles and isothiocyanatoformic acid esters)
- RN 374896-81-8 HCAPLUS
- CN 1H-Pyrrole-3-carboxylic acid, 5-(4-chlorophenyl)-2-
 [[[ethoxycarbonyl]amino]methoxymethylene]amino]-, 2,6-bis(1,1-dimethylethyl)-4-methylcyclohexyl ester (9CI) (CA INDEX NAME)



L45 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:300678 HCAPLUS

DN 134:311103

ED Entered STN: 27 Apr 2001

TI Synthesis of 4-substituted pyrrole-2-carbaldehyde compounds

IN Liebeskind, Lanny S.; Liu, Wangsheng

PA Emory University, USA

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT **Patent**

LA English

IC ICM C07D207-00

CC 27-10 (Heterocyclic Compounds (One Hetero Atom))

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001028997	A2	20010426	WO 2000-US41452	20001023 <--
	W: CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 6441194	B1	20020827	US 2000-694655	20001023 <--
PRAI	US 1999-160776P	P	19991021 <--		
OS	CASREACT 134:311103; MARPAT 134:311103				
AB	The invention relates to a process for making a 4-substituted pyrrole-2-carbaldehyde compound comprising reacting: (a) a pyrrole-2-carbaldehyde compound; and (b) an alkylating agent; (c) in the presence of at least one catalyst. E.g., pyrrole-2-carboxaldehyde was alkylated with tert-Bu chloride in the presence of AlCl ₃ (1.2 equiv) in 1,2-dichloroethane to give 95% 4-tert-butylpyrrole-2-carboxaldehyde.				
ST	alkylation pyrrolecarboxaldehyde catalyst				
IT	Alkylation catalysts				
	(alkylation of pyrrole-2-carbaldehyde catalyzed by Lewis acids)				
IT	Lewis acids				
	RL: CAT (Catalyst use); USES (Uses)				
	(alkylation of pyrrole-2-carbaldehyde catalyzed by Lewis acids)				
IT	Alkylation				
	(of 4-substituted pyrrole-2-carbaldehyde compds.)				
IT	7446-70-0, Aluminum trichloride, uses 7637-07-2, Boron trifluoride, uses				
	7646-78-8, Tin tetrachloride, uses 7646-85-7, Zinc dichloride, uses				
	7647-18-9, Antimony pentachloride 7705-08-0, Iron trichloride, uses				

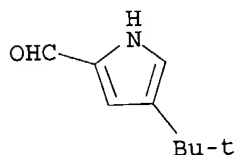
7727-15-3, Aluminum tribromide 10025-91-9, Antimony trichloride
 10026-11-6, Zirconium tetrachloride 10294-34-5, Boron trichloride
 13450-90-3, Gallium trichloride
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of 4-substituted pyrrole-2-carbaldehyde compds.)

IT 156245-57-7P
 RL: IMF (Industrial manufacture); SPN (Synthetic
 preparation); PREP (Preparation)
 (preparation of 4-substituted pyrrole-2-carbaldehyde compds.)

IT 109-97-7, Pyrrole 507-20-0, Tert-Butyl chloride 1003-29-8,
 Pyrrole-2-carboxaldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of 4-substituted pyrrole-2-carbaldehyde compds.)

IT 156245-57-7P
 RL: IMF (Industrial manufacture); SPN (Synthetic
 preparation); PREP (Preparation)
 (preparation of 4-substituted pyrrole-2-carbaldehyde compds.)

RN 156245-57-7 HCAPLUS
 CN 1H-Pyrrole-2-carboxaldehyde, 4-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



L45 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:463022 HCAPLUS
 DN 131:145389
 ED Entered STN: 29 Jul 1999
 TI Heat-sealable electrically conductive top tapes for semiconductor
 packaging
 IN Hamano, Naokichi; Takahashi, Hiroshi; Kaneko, Buhei
 PA Nippon Soda Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 IC ICM B65D073-00
 ICS B32B027-18; C08G061-00; C09J007-02; H01L023-29; H01L023-31
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11198964	A2	19990727	JP 1998-13542	19980109 <--
PRAI	JP 1998-13542		19980109 <--		

AB The tapes comprise substrates having a heat-sealable layer on one side and a release layer on the other side, where .gtoreq.1 of the layers contains binder resins and charge transfer complexes composed of elec. conductive organic polymers as electron donors and electron acceptors and have surface resistivity (R) .ltoreq.10¹² .OMEGA./box. Thus, 90 g of 10% SSPY (pyrrol copolymer prepared from 3.63 g Bu 4-methylpyrrole-3-carboxylate and 7.07 g Et 4-methylpyrrole-3-carboxylate) in MePh/DMF was mixed with 10 g TCNA (2,3,6,7-tetracyano-1,4,5,8-tetraazanaphthalene) to give a charge transfer mixture (A), 20 parts of which was mixed with Vylon 50AS (polyester) 100,

- Hardlen 15 LPG (chlorinated polyethylene) 50, and Coronate HL 75 (hexamethylene diisocyanate) 11 parts, applied on a biaxially stretched copolyester film, and dried to give a transparent tape having a heat-sealable layer showing resistivity 1×10^{10} .OMEGA./box. A coating for a release layer containing 100 parts Peeloil 1010 (polyacrylamide) and 5 parts A was applied on the copolyester film and showed resistivity 1×10^{12} .OMEGA./box.
- ST heat sealable top tape semiconductor packaging; polypyrrole conductive polymer tape electronic packaging film; methylpyrrolecarboxylate copolymer conductive packaging tape; tetracyanotetraazaphthalene electron acceptor semiconductor packaging tape; hexamethylene diisocyanate crosslinked electronic packaging tape; release film polyacrylamide electronic packaging tape
- IT Packaging materials
(films, heat-sealable; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers doped with)
- IT Packaging materials
(films, transparent, tapes; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)
- IT Conducting polymers
(heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)
- IT **Charge transfer complexes**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)
- IT Electron acceptors
Electronic packaging materials
Release films
Semiconductor devices
(heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers doped with)
- IT Polyurethanes, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-, binder for heat-sealable layer; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)
- IT Adhesive tapes
Adhesive tapes
(sealing; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers doped with)
- IT Polyesters, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(substrates; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)
- IT Sealing compositions
Sealing compositions
(tapes; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers doped with)
- IT 235096-63-6P, Coronate HL 75-Vylon 50AS copolymer 235096-64-7P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(binder for heat-sealable layer; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)
- IT 9002-88-4D, Polyethylene, chlorinated 235096-07-8, Hardlen 15LPG

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (binder for heat-sealable layer; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)

IT 146103-05-1, Peeloil 1010
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (binder for release layer; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)

IT 64535-52-0, 2,3,6,7-Tetracyano-1,4,5,8-tetraazanaphthalene
 RL: MOA (Modifier or additive use); USES (Uses)
 (dopant, TCNA; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)

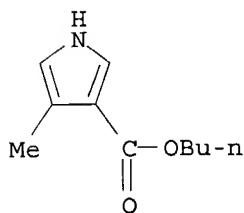
IT 150527-18-7P, SSPY
 RL: **IMF (Industrial manufacture)**; POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (tetracyanotetraazanaphthalene-doped; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)

IT 150527-18-7P, SSPY
 RL: **IMF (Industrial manufacture)**; POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
 (tetracyanotetraazanaphthalene-doped; heat-sealable top tapes for semiconductor packaging containing polypyrrole conductive polymers)

RN 150527-18-7 HCAPLUS
 CN 1H-Pyrrole-3-carboxylic acid, 4-methyl-, butyl ester, polymer with ethyl 4-methyl-1H-pyrrole-3-carboxylate (9CI) (CA INDEX NAME)

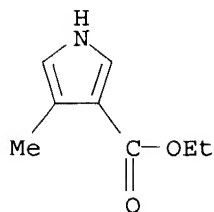
CM 1

CRN 129933-81-9
 CMF C10 H15 N O2



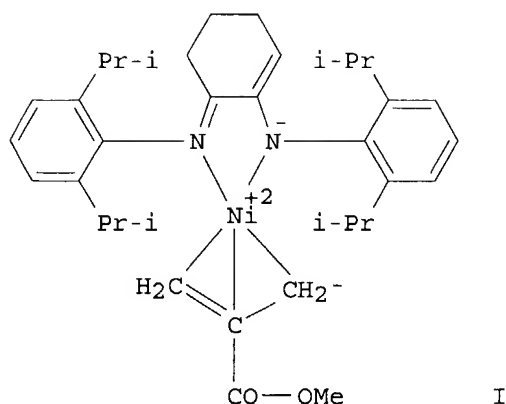
CM 2

CRN 2199-49-7
 CMF C8 H11 N O2



L45 ANSWER 9 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1998:493611 HCAPLUS
 DN 129:149362
 ED Entered STN: 07 Aug 1998
 TI Polymerization of olefins in the presence of nickel complexes
 IN Johnson, Lynda Kaye; Bennett, Alison Margaret Anne; Ittel, Steven Dale;
 Wang, Lin; Parthasarathy, Anju; Hauptman, Elisabeth; Simpson, Robert D.;
 Feldman, Jerald; Coughlin, Edward Bryan; et al.
 PA E. I. Du Pont de Nemours & Co., USA; Johnson, Lynda Kaye; Bennett, Alison
 Margaret Anne; Ittel, Steven Dale; Wang, Lin; Parthasarathy, Anju;
 Hauptman, Elisabeth; Simpson, Robert D.
 SO PCT Int. Appl., 149 pp.
 CODEN: PIXXD2
 DT **Patent**
 LA English
 IC ICM C08F010-00
 ICS C08F004-70; C08F004-82; C07F015-04; C07D207-335; C07C225-14;
 C07C229-30; C07C237-16; C07C327-44
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 29, 67
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9830609	A1	19980716	WO 1998-US610	19980113 <--
	W:			AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GE, GW, HU, ID, IL, IS, JP, KG, KP, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	
	RW:			GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG	
	AU 9859150	A1	19980803	AU 1998-59150	19980113 <--
	AU 734651	B2	20010621		
	EP 952997	A1	19991103	EP 1998-902510	19980113 <--
	R:			AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, FI	
	BR 9806894	A	20000321	BR 1998-6894	19980113 <--
	TR 9901645	T2	20000421	TR 1999-9901645	19980113 <--
	JP 2000514132	T2	20001024	JP 1998-531236	19980113 <--
	JP 3418992	B2	20030623		
	US 6174975	B1	20010116	US 1998-6536	19980113 <--
	NO 9903295	A	19990901	NO 1999-3295	19990702 <--
	MX 9906534	A	20000228	MX 1999-6534	19990713 <--
	US 6613915	B1	20030902	US 1999-417323	19991013 <--
PRAI	US 1997-35190P	P	19970114	<--	
	US 1998-6536	A3	19980113	<--	
	WO 1998-US610	W	19980113	<--	
OS	MARPAT 129:149362				
GI					



- AB Selected olefins such as ethylene and α -olefins are polymerized by nickel[II] complexes of certain monoanionic ligands such as nickel-diimine complex I. The polyolefins are useful in many applications such as molding resins, film, fibers and others. I was manufactured by reaction of 2 equiv Na salt of the product of 1,2-cyclohexanedione and 2,6-diisopropylaniline with 1 equiv $[(\text{CH}_2\text{C}(\text{CO}_2\text{Me})\text{CH}_2)\text{Ni}(\mu\text{-Br})]_2$.
- ST olefin polymn catalyst nickel complex; diimine nickel complex polymn catalyst olefin; methyl methacrylate nickel bromide complex catalyst; cyclohexanedione diisopropylaniline adduct nickel complex catalyst; ethylene polymn catalyst nickel complex; monoanionic compd nickel complex polymn catalyst
- IT Aluminoxanes
 RL: CAT (Catalyst use); USES (Uses)
 (Me, cocatalyst; polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)
- IT Imines
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (catalyst precursors; polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)
- IT Lewis acids
 RL: CAT (Catalyst use); USES (Uses)
 (cocatalysts; polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)
- IT Polymerization catalysts
 (polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)
- IT Chelates
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)
- IT Polyolefins
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)
- IT Amines, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (secondary, catalyst precursors; polymerization of olefins in presence of

nickel complexes of monoanionic ligands as catalysts)
 IT 210883-61-7P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
 USES (Uses)

(catalyst precursor; polymerization of olefins in presence of nickel
 complexes

of monoanionic ligands as catalysts)
 IT 20772-81-0P 33535-76-1P 54220-58-5P 58086-72-9P 72366-42-8P
 81292-75-3P, Lithium 5-methyl-2-thiophenecarboxylate **89532-36-5P**
 , Sodium 2,5-dimethylpyrrole 97746-39-9P 128175-73-5P 163165-91-1P
 187605-87-4P 210096-32-5P 210295-15-1P 210882-22-7P 210882-23-8P
 210882-24-9P 210882-25-0P 210882-26-1P 210882-27-2P 210882-28-3P
 210882-29-4P 210882-30-7P 210882-31-8P 210882-32-9P 210882-33-0P
 210882-34-1P 210882-35-2P 210882-36-3P 210882-37-4P 210882-38-5P
 210882-39-6P 210882-40-9P 210882-41-0P 210882-42-1P 210882-43-2P
210882-44-3P 210882-45-4P 210882-46-5P 210882-47-6P
 210882-75-0P 210882-76-1P 210882-77-2P 210882-78-3P 210882-79-4P
 210882-80-7P 210882-81-8P 210882-82-9P 210882-83-0P 210882-84-1P
 210882-85-2P 210882-86-3P 210882-87-4P 210882-88-5P 210882-89-6P
 210882-90-9P 210882-91-0P 210882-92-1P 210882-93-2P 210882-94-3P
 210882-95-4P 210882-96-5P 210882-97-6P 210882-98-7P 210882-99-8P
 210883-00-4P 210883-01-5P 210883-02-6P 210883-03-7P 210883-04-8P
 210883-05-9P 210883-06-0P 210883-07-1P 210883-08-2P 210883-09-3P
 210883-10-6P 210883-11-7P 210883-12-8P 210883-13-9P 210883-14-0P
 210883-15-1P 210883-16-2P 210883-17-3P 210883-18-4P 210883-19-5P
 210883-49-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)

(catalyst precursor; polymerization of olefins in presence of nickel
 complexes

of monoanionic ligands as catalysts)
 IT 75-05-8, Acetonitrile, reactions 87-62-7, 2,6-Dimethylaniline 87-63-8,
 2-Chloro-6-methylaniline 90-59-5, 3,5-Dibromosalicylaldehyde 90-60-8,
 3,5-Dichloro-2-hydroxybenzaldehyde 91-00-9, Aminodiphenylmethane
 93-91-4 97-51-8, 2-Hydroxy-5-nitrobenzaldehyde 104-85-8, p-Tolunitrile
 105-45-3, Methyl acetoacetate 108-48-5, 2,6-Lutidine 110-86-1,
 Pyridine, reactions 124-68-5, 2-Amino-2-methylpropanol 344-18-3,
 2,6-Dibromo-4-fluoroaniline 504-29-0, 2-Aminopyridine 594-19-4,
 tert-Butyllithium 611-20-1, 2-Hydroxybenzonitrile 708-06-5,
 2-Hydroxy-1-naphthaldehyde 708-76-9, 4,6-Dimethoxysalicylaldehyde
 765-87-7, 1,2-Cyclohexanedione 961-38-6, 2,4,6-Tris(tert-butyl)aniline
 1003-29-8, Pyrrole-2-carboxaldehyde 1072-43-1, Propylene sulfide
 1603-40-3, 2-Amino-3-picoline 2071-20-7, Bis(diphenylphosphino)methane
 2101-86-2, 4-Methylphenyl azide 2217-40-5, 1,2,3,4-Tetrahydro-1-
 naphthylamine 2460-59-5, 3,5-Dinitro-2-hydroxybenzaldehyde 2631-77-8,
 3,5-Diiodosalicylaldehyde 3321-92-4, 3',5'-Dichloro-2'-
 hydroxyacetophenone 6310-21-0, 2-tert-Butylaniline 6968-24-7,
 2,6-Dibromo-4-methylaniline 12155-73-6 19966-81-5, Lithium
 dicyclohexylphosphine 22362-66-9, 3',5'-Dibromo-2'-hydroxyacetophenone
 24544-04-5, 2,6-Diisopropylaniline 25112-68-9, Sodium
 2-thiophenecarboxylate 31656-92-5, 2-Methylphenyl azide 32650-02-5
 37942-07-7 74663-75-5 122905-76-4 187605-76-1 205993-24-4
 210882-69-2 210882-71-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(catalyst precursor; polymerization of olefins in presence of nickel
 complexes

of monoanionic ligands as catalysts)
 IT 109-63-7, Boron trifluoride etherate 960-71-4, Triphenylborane
 1109-15-5, Tris(pentafluorophenyl)borane 2397-67-3, Triisopropylaluminum
 169116-84-1, Tris[3,5-bis(trifluoromethyl)phenyl]borane

RL: CAT (Catalyst use); USES (Uses)

(cocatalyst; polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)

IT	210882-48-7P	210882-49-8P	210882-50-1P	210882-51-2P	210882-52-3P
	210882-53-4P	210882-54-5P	210882-55-6P	210882-56-7P	210882-57-8P
	210882-58-9P	210882-59-0P	210882-60-3P	210882-61-4P	210882-62-5P
	210882-63-6P	210882-64-7P	210882-65-8P	210882-66-9P	210882-67-0P
	210882-68-1P	210882-70-5P	210882-72-7P	210882-73-8P	210883-20-8P
	210883-21-9P	210883-22-0P	210883-23-1P	210883-24-2P	210883-25-3P
	210883-26-4P	210883-27-5P	210883-28-6P	210883-30-0P	210883-32-2P
	210883-34-4P	210883-35-5P	210883-36-6P	210883-38-8P	210883-39-9P
	210883-41-3P	210883-43-5P	210883-44-6P	210883-45-7P	210883-46-8P
	210883-47-9P	210883-48-0P	210883-50-4P	210883-51-5P	210883-52-6P
	210883-53-7P	210883-54-8P	210883-55-9P	210883-56-0P	210883-57-1P
	210883-58-2P	210883-59-3P	210883-60-6P		

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)

IT	9002-88-4P	9003-07-0P, Polypropylene	9003-53-6P, Polystyrene
	25038-76-0P, Polynorbornene	25103-85-9P, Polycyclopentene	25213-02-9P,
	Ethylene-1-hexene copolymer	26221-73-8P	32536-03-1P,
	Cyclopentene-ethylene copolymer	110418-39-8P, Dimethyl	
	endo-5-norbornene-2,3-dicarboxylate-norbornene copolymer	142277-16-5P,	
	Norbornene-styrene copolymer	185621-15-2P	210882-74-9P, Ethylene-ethyl
	4-pentenoate copolymer		

RL: IMF (Industrial manufacture); PREP (Preparation)

(polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Du Pont; WO 9623010 A 1996 HCAPLUS

(2) Ecole Europ Des Hautes Etudes; DE 4415725 A 1994 HCAPLUS

(3) Novak, B; US 5395811 A 1995 HCAPLUS

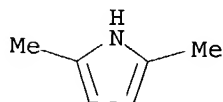
IT 89532-36-5P, Sodium 2,5-dimethylpyrrole 210882-44-3P
210882-45-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(catalyst precursor; polymerization of olefins in presence of nickel complexes of monoanionic ligands as catalysts)

RN 89532-36-5 HCAPLUS

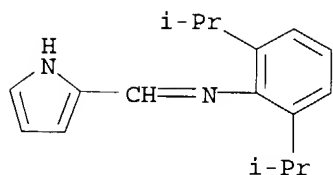
CN 1H-Pyrrole, 2,5-dimethyl-, sodium salt (9CI) (CA INDEX NAME)



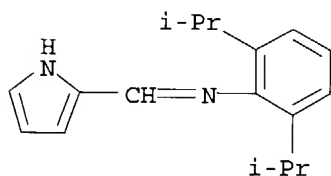
● Na

RN 210882-44-3 HCAPLUS

CN Benzenamine, 2,6-bis(1-methylethyl)-N-(1H-pyrrol-2-ylmethylene)- (9CI)
(CA INDEX NAME)



RN 210882-45-4 HCAPLUS
 CN Benzenamine, 2,6-bis(1-methylethyl)-N-(1H-pyrrol-2-ylmethylene)-, sodium salt (9CI) (CA INDEX NAME)



● Na

L45 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1997:587643 HCAPLUS
 DN 127:262526
 ED Entered STN: 13 Sep 1997
 TI Preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone
 IN Fujisawa, Tamotsu; Shimizu, Makoto
 PA Nippon Soda Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT **Patent**
 LA Japanese
 IC ICM C07C049-82
 ICS B01J027-125; C07C045-57; C07C049-84; C07D305-12; C07B061-00; C07M007-00
 CC 25-16 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09227441	A2	19970902	JP 1996-60067	19960222 <--
PRAI	JP 1996-60067		19960222 <--		

OS CASREACT 127:262526; MARPAT 127:262526
 AB Optically-active .beta.-hydroxyketones, useful as intermediates for bioactive substances, are prepared by ring opening of optically-active .beta.-trihalomethyl-.beta.-propiolactones with Lewis acids. AlCl₃ was gradually added to a benzene solution of (R)-.beta.-trichloromethyl-.beta.-propiolactone at 5.degree. over 30 min and the reaction mixture was further stirred for 9 h to give 90% (R)-3-hydroxy-1-phenyl-4,4,4-trichloro-1-butanone.
 ST benzene acylation halomethylpropiolactone Lewis acid catalyst;
 propiolactone trihalomethyl acylating agent benzene
 IT Acylation
 (agents; preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis

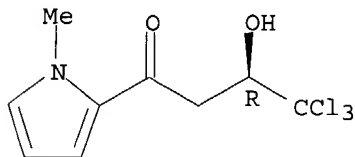
- acids)
- IT Ketones, preparation
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (alkyl aromatic, .beta.-hydroxy; preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT Ketones, preparation
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (hydroxy, .beta.-, aryl; preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT Acylation catalysts
 (preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT **Lewis acids**
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT Aromatic compounds
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT 7446-70-0, Aluminum chloride, uses
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of optically-active aryl .beta.-hydroxyketones by acylation of benzenes with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT 196107-42-3P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (preparation of optically-active aryl .beta.-hydroxyketones by acylation of benzenes with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT 196107-43-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of optically-active aryl .beta.-hydroxyketones by acylation of benzenes with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT 96-10-6, Diethylaluminum chloride, uses 563-43-9, Ethylaluminum dichloride, uses 7550-45-0, Titanium tetrachloride, uses 7705-08-0, Ferric chloride, uses 7727-15-3, Aluminum bromide
 RL: CAT (Catalyst use); USES (Uses)
 (preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT 196107-44-5P 196107-45-6P **196107-46-7P** 196107-47-8P 196107-49-0P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT 71-43-2, Benzene, reactions 96-54-8, 1-Methylpyrrole 100-66-3, reactions 108-38-3, reactions 108-67-8, Mesitylene, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)
- IT **196107-46-7P**
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation of optically-active aryl .beta.-hydroxyketones by acylation with .beta.-trihalomethyl-.beta.-propiolactone using Lewis acids)

RN 196107-46-7 HCAPLUS

CN 1-Butanone, 4,4,4-trichloro-3-hydroxy-1-(1-methyl-1H-pyrrol-2-yl)-, (R) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L45 ANSWER 11 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:650499 HCAPLUS

DN 123:100376

ED Entered STN: 01 Jul 1995

TI Manufacture of solid electrolytic capacitor with polypyrrole film electrolyte

IN Harakawa, Yoshihiro; Sato, Reiji

PA Nitsuko Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

IC ICM H01G009-028

ICS C08G061-12; H01G009-00

CC 76-10 (Electric Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07099139	A2	19950411	JP 1993-265596	19930928 <--
PRAI	JP 1993-265596		19930928 <--		

AB The manufacture involves the following steps: (1) forming a dielec. oxide layer on a valve metal, (2) forming a first elec. conductive polypyrrole film on the dielec. layer by applying and polymerizing a THF solution containing pyrrole, B

compound or S compound, and an oxidizing agent or by polymerizing, applying, and

drying the THF solution, and (3) forming a second polypyrrole film by electrochem. polymerizing MeCN solution containing pyrrole and B compound or S compound

The capacitor is suitable for high-voltage application.

ST polypyrrole conductive film electrolytic capacitor

IT **Lewis acids**

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(manufacture of solid electrolytic capacitor with polypyrrole film electrolyte)

IT Electric capacitors

(electrolytic, manufacture of solid electrolytic capacitor with polypyrrole film electrolyte)

IT 4124-42-9, Ammonium p-toluenesulfonate 7727-54-0, Ammonium persulfate

19443-40-4, Ammonium borodisalicylate 92538-40-4

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(manufacture of solid electrolytic capacitor with polypyrrole film electrolyte)

IT 30604-81-0P, Polypyrrole
 RL: DEV (Device component use); PNU (Preparation, unclassified);
 PREP (Preparation); USES (Uses)
 (manufacture of solid electrolytic capacitor with polypyrrole film electrolyte)

IT 30604-81-0P, Polypyrrole
 RL: DEV (Device component use); PNU (Preparation, unclassified);
 PREP (Preparation); USES (Uses)
 (manufacture of solid electrolytic capacitor with polypyrrole film electrolyte)

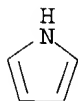
RN 30604-81-0 HCAPLUS

CN 1H-Pyrrole, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 109-97-7

CMF C4 H5 N



L45 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:523267 HCAPLUS

DN 121:123267

ED Entered STN: 03 Sep 1994

TI Manufacture of solid electrolytic capacitors

IN Fukami, Takashi; Sato, Masaharu

PA Nippon Electric Co, Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

IC ICM H01G009-02

ICS H01G009-02

ICA C08G061-12

CC 76-10 (Electric Phenomena)

Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06069082	A2	19940311	JP 1992-219874	19920819 <--
PRAI	JP 1992-219874		19920819 <--		

AB The capacitors are manufactured by forming (A) dielecs. by anodizing metal films, (B) metal oxide films (e.g., Ta2O5 and Pb oxides), (C) elec. conductive polymer films manufactured by chemical polymerization, and (D) elec. conductive pastes.

ST elec capacitor polymer conductive film; anodization metal film elec capacitor; polymn conductive film elec capacitor

IT **Lewis acids**

RL: TEM (Technical or engineered material use); USES (Uses)

(electrochem., polymerization in presence of, in manufacture of solid electrolytic capacitors)

IT Anodization
(of tantalum, in manufacture of solid electrolytic capacitors)
IT Polymerization
(electrochem., of pyrrole, in manufacture of solid electrolytic capacitors)
IT Electric capacitors
(electrolytic, solid, manufacture of, elec. conductive polymer films for)
IT 36812-50-7 52641-56-2, Dodecylbenzenesulfonic acid iron salt
RL: TEM (Technical or engineered material use); USES (Uses)
(polymer films prepared in presence of, in manufacture of solid electrolytic capacitors)
IT 25067-54-3P, Polyfuran 25233-30-1P, Polyaniline 25233-34-5P,
Polythiophene 30604-81-0P, Polypyrrole 72945-66-5P,
N-Methylpyrrole homopolymer
RL: PREP (Preparation)
(preparation of, solid electrolytic capacitors containing)
IT 1314-61-0, Tantalum oxide 1335-25-7, Lead oxide 11129-60-5, Manganese
oxide
RL: USES (Uses)
(solid electrolytic capacitor dielecs. containing)
IT 30604-81-0P, Polypyrrole 72945-66-5P, N-Methylpyrrole
homopolymer
RL: PREP (Preparation)
(preparation of, solid electrolytic capacitors containing)
RN 30604-81-0 HCAPLUS
CN 1H-Pyrrole, homopolymer (9CI) (CA INDEX NAME)

CM 1

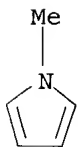
CRN 109-97-7
CMF C4 H5 N



RN 72945-66-5 HCAPLUS
CN 1H-Pyrrole, 1-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96-54-8
CMF C5 H7 N



L45 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:611748 HCAPLUS
DN 113:211748
ED Entered STN: 08 Dec 1990
TI Regioselectivity of the 1,3-dipolar cycloaddition of muenchnones with

alkene electrophiles

AU Texier, Fernand; Mazari, Mohamed; Yebdri, Okacha; Tonnard, Francois; Carrie, Robert

CS Lab. Synth. Org. Electrochim., Angers, 49045, Fr.

SO Tetrahedron (1990), 46(10), 3515-26
CODEN: TETRAB; ISSN: 0040-4020

DT Journal

LA French

CC 27-10 (Heterocyclic Compounds (One Hetero Atom))

OS CASREACT 113:211748

AB The 1,3-dipolar cycloaddn. of several substituted muenchnones with Me .alpha.-cyanocinnamate and .alpha.-cyanocinnamitrile leads to 2-pyrrolines which may be aromatized to pyrroles. This study shows the influence of steric factors on the regioselectivity of the reaction which is a priori difficult to predict.

ST regiochem cycloaddn muenchnone alkene electrophile; pyrroline pyrrole prepn

IT Meso-ionic compounds
RL: RCT (Reactant); RACT (Reactant or reagent)
(Muenchnones, 1,3-dipolar cycloaddn. reactions of, with alkene electrophiles)

IT **Electrophiles**
(alkenes, 1,3-dipolar cycloaddn. reactions with Muenchnones)

IT Alkenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrophiles, 1,3-dipolar cycloaddn. reactions with Muenchnones)

IT Regiochemistry
Steric effect
(of 1,3-dipolar cycloaddn. reactions of Muenchnones with alkene electrophiles)

IT Cycloaddition reaction
(1,3-dipolar, of Muenchnones with alkene electrophiles)

IT 2700-22-3, .alpha.-Cyanocinnamitrile 3695-84-9, Methyl .alpha.-cyanocinnamate
RL: RCT (Reactant); RACT (Reactant or reagent)
(1,3-dipolar cycloaddn. reaction of, with Muenchnones)

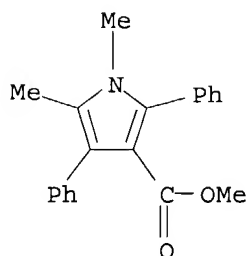
IT 2392-54-3 28544-46-9 28750-98-3 29508-00-7 33099-01-3 66380-05-0 66469-11-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(1,3-dipolar cycloaddn. reactions of, with alkene electrophiles)

IT **18780-48-8P** 86296-99-3P 130484-99-0P 130485-00-6P
130485-01-7P 130485-02-8P 130485-03-9P 130485-04-0P 130485-05-1P
130485-06-2P 130485-07-3P 130485-08-4P 130485-09-5P 130485-10-8P
130485-11-9P 130485-12-0P **130485-13-1P 130485-14-2P**
130485-15-3P 130485-16-4P 130485-17-5P 130485-18-6P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

IT **18780-48-8P 130485-13-1P 130485-14-2P**
130485-15-3P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

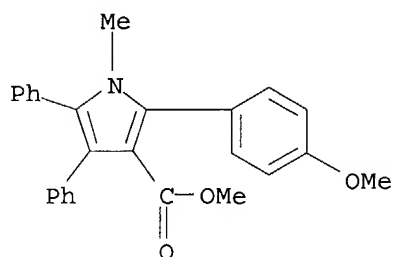
RN 18780-48-8 HCAPLUS

CN 1H-Pyrrole-3-carboxylic acid, 1,5-dimethyl-2,4-diphenyl-, methyl ester
(9CI) (CA INDEX NAME)



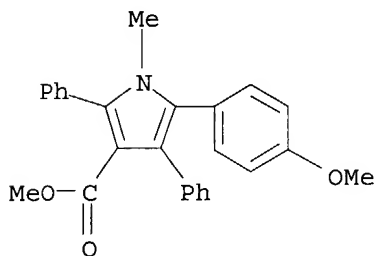
RN 130485-13-1 HCAPLUS

CN 1H-Pyrrole-3-carboxylic acid, 2-(4-methoxyphenyl)-1-methyl-4,5-diphenyl-, methyl ester (9CI) (CA INDEX NAME)



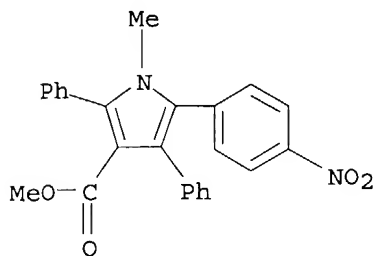
RN 130485-14-2 HCAPLUS

CN 1H-Pyrrole-3-carboxylic acid, 5-(4-methoxyphenyl)-1-methyl-2,4-diphenyl-, methyl ester (9CI) (CA INDEX NAME)



RN 130485-15-3 HCAPLUS

CN 1H-Pyrrole-3-carboxylic acid, 1-methyl-5-(4-nitrophenyl)-2,4-diphenyl-, methyl ester (9CI) (CA INDEX NAME)



L45 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1989:633945 HCAPLUS
 DN 111:233945
 ED Entered STN: 23 Dec 1989
 TI High-surface-area and low-conductivity pyrrole (co)polymers for
 manufacture of catalyst compositions
 IN Yodice, Richard
 PA Lubrizol Corp., USA
 SO U.S., 16 pp. Cont. of U.S. Ser. No. 859,571, abandoned.
 CODEN: USXXAM
 DT **Patent**
 LA English
 IC ICM C25B003-02
 ICS B01J031-06
 NCL 502159000
 CC 35-7 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 38, 67

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4839322	A	19890613	US 1987-65159	19870624 <--
	US 4960761	A	19901002	US 1988-276999	19881128 <--
	US 5233000	A	19930803	US 1990-554315	19900718 <--
PRAI	US 1986-859571		19860505		<--
	US 1987-65159		19870624		<--
	US 1988-276999		19881128		<--

AB The title (co)polymers, which are treated with a catalytic active material
 such as a transition metal to produce an oxygen reduction catalyst, are
 prepared

by (A) immersing an electronically conductive surface in an electrolytic
 bath comprising .gtoreq.1 liquid and .gtoreq.1 non-miscible liquid or gas or
 finely divided solid particles where in a pyrrole or copolymerizable mixture
 containing a pyrrole is one of the liqs. or is dissolved in at least one of
 the liqs., (B) passing an elec. current to (co)polymerize the pyrrole
 (mixture), and (C) treating the pyrrole (co)polymers in the presence of a
 strong base to substantially increase the surface area and substantially
 deprotonate the copolymers. Thus, electrochem. polymerizing pyrrole 40, Na
 lauryl sulfate 40, polyethylene glycol 20, and H2O 1600 g in 200 mL
 heptane, deprotonating the polypyrrole film with KOMe, and reacting with
 I2 gave an iodine-polypyrrole complex useful as a Lewis acid catalyst.

ST polypyrrole transition metal complex catalyst; iodine polypyrrole Lewis
 acid catalyst

IT Alkylation catalysts
 (boron trifluoride, supported on polypyrrole)

IT **Lewis acids**
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, polypyrrole-supported iodine)

IT Transition metals, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, supported on polypyrrole)

IT Reduction catalysts
 (cupric chloride, supported on polypyrrole, for peroxide)

IT Oxidation catalysts
 (nickel acetate, supported on polypyrrole)

IT Polymer-supported reagents
 (polypyrrole-supported catalysts)

IT Polymerization
 (electrochem., of pyrroles, for catalyst supports)

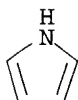
IT 7553-56-2, Iodine, uses and miscellaneous

RL: USES (Uses)
 (Lewis acid catalysts, supported on polypyrrole)
 IT 7637-07-2, Boron trifluoride, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (alkylation catalysts, support on polypyrrole)
 IT 7447-39-4, Cupric chloride, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (antioxidant catalyst, supported on polypyrrole)
 IT 7429-90-5, Aluminum, uses and miscellaneous 7439-96-5, Manganese, uses
 and miscellaneous 7440-02-0, Nickel, uses and miscellaneous 7440-04-2,
 Osmium, uses and miscellaneous 7440-18-8, Ruthenium, uses and
 miscellaneous 7440-50-8, Copper, uses and miscellaneous 7446-11-9,
 Sulfur trioxide, uses and miscellaneous 7726-95-6, Bromine, uses and
 miscellaneous 7773-01-5, Manganese chloride 15438-31-0, uses and
 miscellaneous 20074-52-6, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, supported on polypyrrole)
 IT 373-02-4
 RL: CAT (Catalyst use); USES (Uses)
 (oxidation catalyst, supported on polypyrrole)
 IT 30604-81-0P, Polypyrrole
 RL: PREP (Preparation)
 (support, manufacture of, for catalyst)
 IT 30604-81-0P, Polypyrrole
 RL: PREP (Preparation)
 (support, manufacture of, for catalyst)
 RN 30604-81-0 HCAPLUS
 CN 1H-Pyrrole, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 109-97-7

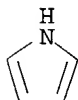
CMF C4 H5 N



L45 ANSWER 15 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1987:225806 HCAPLUS
 DN 106:225806
 ED Entered STN: 26 Jun 1987
 TI Method for the preparation of an electrically conductive polymer in the
 form of a moldable powder
 IN Bellmann, Guenter; Nguyen Van Tao
 PA Battelle Memorial Institute, Switz.
 SO PCT Int. Appl., 18 pp.
 CODEN: PIXXD2
 DT Patent
 LA French
 IC ICM H01B001-12
 ICS H01B001-06; H01B001-04
 CC 76-2 (Electric Phenomena)
 Section cross-reference(s): 27, 35
 FAN.CNT 1
 PATENT NO. KIND DATE APPLICATION NO. DATE

 PI WO 8701504 A1 19870312 WO 1986-CH123 19860901 <--
 W: JP, US
 RW: BE, CH, DE, FR, GB, IT, NL, SE
 CH 666364 A 19880715 CH 1985-3858 19850906 <--
 CH 666976 A 19880831 CH 1985-3859 19850906 <--
 EP 236367 A1 19870916 EP 1986-905179 19860901 <--
 EP 236367 B1 19900801
 R: BE, DE, FR, GB, IT, NL
 JP 63500804 T2 19880324 JP 1986-504564 19860901 <--
 PRAI CH 1985-3858 19850906 <--
 CH 1985-3859 19850906 <--
 WO 1986-CH123 19860901 <--
 AB An elec. conductive polymer, prepared in the form of a compactable and moldable powder, is obtained by chemical oxidation of aromatic heterocycles in the presence of a Lewis acid in an anhydrous medium. Articles obtained with the elec. conductive powder have a volume resistivity of 10^{-2} to 10^{-1} Ω -cm. FeCl₃ 24.33 g was dissolved in absolute ether 150 mL; pyrrole 3.354 g was added dropwise; a black precipitate immediately formed. The solution was stirred 1 h at ambient temperature and the precipitate was recovered, and washed with EtOH and ether until the wash liquid was colorless. The powder was dried in the presence of P₂O₅ and 3.45 g of a black conductive powder was obtained. The powder had the composition C_{4.045}H_{3.066}NCl_{0.39}, with presumably 1 FeCl₄ group per 10 pyrrole groups; the volume conductivity of a disk obtained by compacting the powder at 15 tons/cm² was 28 Ω -cm⁻¹.
 ST arom heterocycle polymer elec conductor; polypyrrole elec conductor; Lewis acid polymn arom heterocycle; oxidn arom heterocycle polymn
 IT Electric conductors
 (aromatic heterocycle polymers, manufacture of)
 IT Carbon black, uses and miscellaneous
 RL: USES (Uses)
 (elec. conductive aromatic heterocycle polymers containing)
 IT **Lewis acids**
 RL: USES (Uses)
 (in manufacture of elec. conductive aromatic heterocycle polymers)
 IT Oxidation
 Polymerization
 (of aromatic heterocycles, in preparation of elec. conductive polymers)
 IT Heterocyclic compounds
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (aromatic, polymerization of, with Lewis acids, in preparation of elec. conductive polymers)
 IT 7631-86-9, Silica, uses and miscellaneous
 RL: USES (Uses)
 (elec. conductive aromatic heterocycle polymers containing)
 IT 7447-39-4, Copper dichloride, uses and miscellaneous 7647-18-9, Antimony pentachloride 7705-08-0, Iron trichloride, uses and miscellaneous 7783-70-2, Antimony pentafluoride 10031-26-2, Iron tribromide 18897-34-2 22441-45-8, Arsenic pentachloride
 RL: USES (Uses)
 (in manufacture of elec. conductive aromatic heterocycle polymers)
 IT 25067-54-3P, Polyfuran 25233-34-5P, Polythiophene 30604-81-0P, Polypyrrole
 RL: PRP (Properties); PREP (Preparation)
 (preparation of elec. conductive)
 IT 30604-81-0P, Polypyrrole

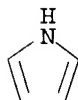
RL: PRP (Properties); **PREP (Preparation)**
 (preparation of elec. conductive)
 RN 30604-81-0 HCAPLUS
 CN 1H-Pyrrole, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 109-97-7
 CMF C4 H5 N



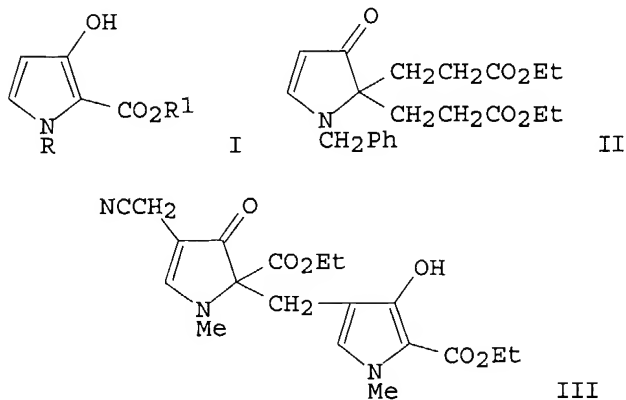
L45 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1983:550709 HCAPLUS
 DN 99:150709
 ED Entered STN: 12 May 1984
 TI Semiconductive polymer film
 PA Nippon Telegraph and Telephone Public Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DT **Patent**
 LA Japanese
 IC H01L021-205; H01L029-78
 CC 76-3 (Electric Phenomena)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58114421	A2	19830707	JP 1981-214984	19811226 <--
PRAI	JP 1981-214984		19811226	<--	
AB	A semiconductor polymer film with an anisotropic conductivity is prepared by microwave or high-frequency heating a polymer film and stretching the film in presence of a halogen gas or its mixture with a Lewis-acid gas. The film is useful for an FET.				
ST	semiconductor polymer film heating stretching; microwave heating semiconductor polymer film; halogen doping semiconductor polymer film; Lewis acid doping semiconductor polymer; FET semiconductor polymer film				
IT	Microwave, chemical and physical effects (heating by, in preparation of semiconductive polymer films)				
IT	Semiconductor materials (polymer films, heating and stretching in preparation of)				
IT	Polymers, uses and miscellaneous RL: PREP (Preparation) (semiconductive films, heating and stretching in preparation of)				
IT	Halogens Lewis acids RL: USES (Uses) (semiconductive polymer films prepared in presence of)				
IT	Transistors (field-effect, semiconductive polymer films for)				
IT	Heating (microwave, in preparation of semiconductive polymer films)				
IT	Films (semiconductive, polymers, heating and stretching in preparation of)				
IT	25067-58-7P 30604-81-0P				

RL: **PREP (Preparation)**
 (semiconductive films, heating and stretching in preparation of)
 IT 7440-37-1, uses and miscellaneous 7727-37-9, uses and miscellaneous
 7784-36-3
 RL: **USES (Uses)**
 (semiconductive polymer films prepared in presence of)
 IT **30604-81-0P**
 RL: **PREP (Preparation)**
 (semiconductive films, heating and stretching in preparation of)
 RN 30604-81-0 HCAPLUS
 CN 1H-Pyrrole, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 109-97-7
 CMF C4 H5 N



L45 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1979:103753 HCAPLUS
 DN 90:103753
 ED Entered STN: 12 May 1984
 TI 3-Hydroxypyrroles. II. The reaction of 4,5-unsubstituted alkyl
 3-hydroxypyrrole-2-carboxylates with some electrophiles
 AU Momose, Takefumi; Tanaka, Tetsuaki; Yokota, Takashi; Nagamoto, Norio;
 Yamada, Kazuyo
 CS Fac. Pharm. Sci., Osaka Univ., Suita, Japan
 SO Chemical & Pharmaceutical Bulletin (1978), 26(11), 3521-9
 CODEN: CPBTAL; ISSN: 0009-2363
 DT Journal
 LA English
 CC 27-10 (Heterocyclic Compounds (One Hetero Atom))
 OS CASREACT 90:103753
 GI



- AB The reaction of alkyl 3-hydroxypyrrole-2-carboxylates I (R = H, Me, PhCH₂, Ph; R₁ = Et, Me₃C) with some electrophiles was investigated. The alkylation of I (R = Me, R₁ = Et) occurred at the O and C-2 position as in the case of usual .beta.-keto esters. I (R = PhCH₂, R₁ = Et) reacted at the 2-position upon the Michael reaction. In addition to the C-2 adduct, an unexpected 2,2-bis-adduct II was concurrently obtained possibly via the ketonic cleavage of the mono-adduct followed by the second addition of acrylate. I (R = H, R₁ = Me₃C) gave a mono-adduct at C-2 and a bis-adduct at C-2 and N. Upon bromination, I (R = Me, R₁ = Et) reacted at the 4- and 5-position, not at the 2-position; namely I (R = Me, R₁ = Et) reacted with Br as an enamine or a pyrrole, and not as a .beta.-keto ester. The Mannich reaction occurred rapidly and selectively at the 4-position, and the 4-bromo derivative reacted preferentially at the 5-position. In the cyanation of the quaternary salts of the Mannich bases, a dimer III, a trimer and a dicyano compound were obtained in addition to the expected cyanides.
- ST pyrrolecarboxylate hydroxy reaction electrophile; electrophile reaction hydroxypyrrolecarboxylate; alkylation hydroxypyrrolecarboxylate; Claisen rearrangement hydroxypyrrolecarboxylate; Michael reaction hydroxypyrrolecarboxylate; bromination hydroxypyrrolecarboxylate; Michael reaction hydroxypyrrolecarboxylate
- IT Alkylation
Bromination
Claisen rearrangement
Mannich reaction
Michael condensation
(of alkyl hydroxypyrrolecarboxylates)
- IT **Electrophiles**
(reaction of, with alkyl hydroxypyrrolecarboxylates)
- IT 140-88-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(Michael reaction of, with Et benzylhydroxypyrrolecarboxylate)
- IT 65171-79-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(Michael reaction with Et acrylate)
- IT 65171-74-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(bromination of)
- IT 69455-72-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and Mannich reaction of)
- IT **69455-74-9P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**
(preparation and hydrolysis-decarboxylation of)
- IT 69455-76-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with cyanide)
- IT 65172-00-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and thermal rearrangement of)
- IT 65171-98-4P 65171-99-5P 65172-01-2P 65172-02-3P 65172-03-4P
65172-04-5P 65172-05-6P 65172-06-7P 65172-18-1P 69455-70-5P
69455-71-6P 69455-73-8P 69455-75-0P 69455-77-2P 69455-78-3P
69455-79-4P 69455-80-7P 69455-81-8P 69455-82-9P 69455-83-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

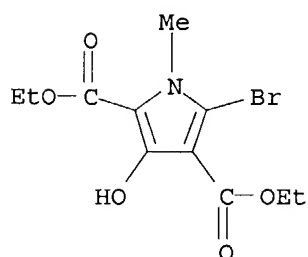
IT 106-95-6, reactions 591-97-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Et methylhydroxypyrrolecarboxylate)

IT 65171-90-6 65171-91-7 65171-93-9 65171-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with electrophiles)

IT **69455-74-9P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and hydrolysis-decarboxylation of)

RN 69455-74-9 HCAPLUS

CN 1H-Pyrrole-2,4-dicarboxylic acid, 5-bromo-3-hydroxy-1-methyl-, diethyl ester (9CI) (CA INDEX NAME)



L45 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1976:59092 HCAPLUS

DN 84:59092

ED Entered STN: 12 May 1984

TI Unusually reactive pyrrole

AU Campaigne, E.; Shutske, G. M.

CS Chem. Lab., Indiana Univ., Bloomington, IN, USA

SO Journal of Heterocyclic Chemistry (1975), 12(5), 1047-9
CODEN: JHTCAD; ISSN: 0022-152X

DT Journal

LA English

CC 27-10 (Heterocyclic Compounds (One Hetero Atom))

OS CASREACT 84:59092

GI For diagram(s), see printed CA Issue.

AB The .pi.-excessive heterocycle RH undergoes facile electrophilic substitution. Treating RH with BzH in the presence of an acid catalyst gave the pentaarylethane RCHPhCPhR2. Condensing pyrrole I with 2,4-dimethylpyrrole in CHCl3 with dry HCl catalyst gave dipyrromethene II. Sulfenylation of RH with N-phenylthiophthalimide in THF gave a moderate yield of RSPH.

ST pi excessive heterocycle substitution; electrophilic substitution pyrrole; pentaarylethane; ethane pentaaryl; arylethane penta; sulfenylation pyrrole; benzaldehyde reaction pyrrole

IT Substitution reaction
(electrophilic, of .pi.-excessive methoxymethylphenylpyrrole)

IT **Electrophiles**
(substitution of methoxymethylphenylpyrrole)

IT Heterocyclic compounds
RL: RCT (Reactant); RACT (Reactant or reagent)
(.pi.-excessive, electrophilic substitution of)

IT 625-82-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation with pyrrolecarboxaldehyde derivative)

IT 56163-91-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrophilic substitution of)

IT **58108-24-0P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and reaction with dimethylpyrrole)

IT 58108-23-9P **58108-25-1P** 58108-26-2P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

IT 56163-74-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dimethylformamide and phosphorus oxychloride)

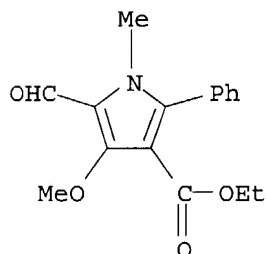
IT 14204-27-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methoxymethylphenylpyrrole)

IT 100-52-7, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(with methoxymethylphenylpyrrole)

IT **58108-24-0P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and reaction with dimethylpyrrole)

RN 58108-24-0 HCAPLUS

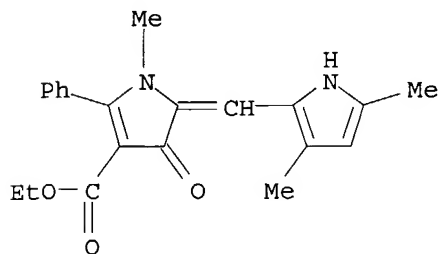
CN 1H-Pyrrole-3-carboxylic acid, 5-formyl-4-methoxy-1-methyl-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)



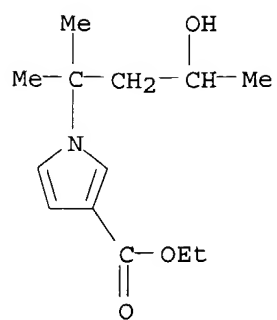
IT **58108-25-1P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)

RN 58108-25-1 HCAPLUS

CN 1H-Pyrrole-3-carboxylic acid, 5-[(3,5-dimethyl-1H-pyrrol-2-yl)methylene]-4,5-dihydro-1-methyl-4-oxo-2-phenyl-, ethyl ester (9CI) (CA INDEX NAME)



L45 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1974:491450 HCAPLUS
DN 81:91450
ED Entered STN: 12 May 1984
TI Chemistry of dihydro-1,3-oxazines. 24. Formation of pyrroles from dihydro-1,3-oxazines
AU Narwid, Thomas A.; Meyers, A. I.
CS Dep. Chem., Wayne State Univ., Detroit, MI, USA
SO Journal of Organic Chemistry (1974), 39(17), 2572-4
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
CC 28-14 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 22, 27
OS CASREACT 81:91450
GI For diagram(s), see printed CA Issue.
AB The reaction of carbethoxymethyloxazine I with electrophilic aldehydes or olefins ICH₂CH(OEt)₂, II, (EtO)₂CHCH:CHCO₂Et, or PhCH:CH-NO₂) leads to polysubstituted pyrroles, e.g. III. The method allows, by choice of conditions, either N-alkylpyrroles or fused pyrrolooxazines, e.g., IV.
ST carbethoxymethyloxazine electrophilic reaction; oxazine carbethoxymethyl reaction; pyrrolooxazine; pyrrole alkyl; aldehyde electrophile oxazineacetate; olefin electrophile oxazineacetate
IT Ring closure and formation
(of (carboethoxymethyl)oxazine derivative)
IT **Electrophiles**
(reaction of, with (carbethoxymethyl)oxazine derivative)
IT 2032-35-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(iodination of)
IT 51806-20-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with (carbethoxymethyl)oxazine derivative)
IT **34579-26-5P** 34579-27-6P 34579-28-7P 34579-29-8P
34579-30-1P 34579-31-2P 34579-32-3P 34579-33-4P 51806-19-0P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
IT 102-96-5 2833-30-9 2960-65-8 10602-40-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with (carbethoxymethyl)oxazine derivative)
IT 36867-19-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with electrophilic aldehydes and olefins)
IT **34579-26-5P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
RN 34579-26-5 HCAPLUS
CN 1H-Pyrrole-3-carboxylic acid, 1-(3-hydroxy-1,1-dimethylbutyl)-, ethyl ester (9CI) (CA INDEX NAME)



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